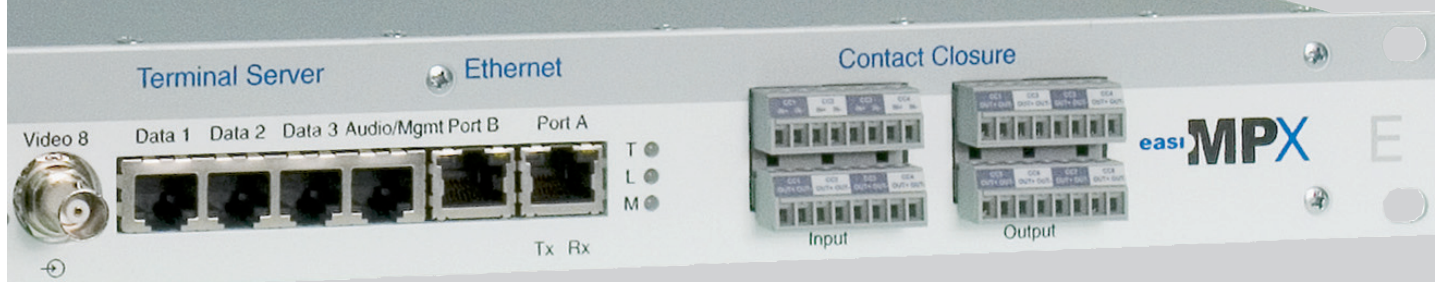


MPX series video encoders

MPEG-4 / MJPEG / MPEG-2 video encoders
for PTZ and fixed camera networking applications

MPC-E1, MPC-E2, MPC-E4,
MPC-EZ & MPX-E8



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MPX Series Video Encoders Introduction

Stand-alone video encoder with 1/2/4/8 video inputs, bi-directional data, audio and contact closure channels

General

Many similarities exist between the **MPC-E1**, **MPC-E2**, **MPC-E4**, **MPC-EZ** and **MPX-E8**; the main difference being the number of video channels available and the mechanics. **MPX** series video encoders are a high performance, stand-alone, temperature-hardened network video processing products encoding real time video in mission critical applications for customers in Transportation, City Center Monitoring, and Corporate Security. **MPC** series encoders are compact size stand-alone video processing products in the **MPX** platform. **MPX-E8** is a 1U high/19" wide size stand-alone video processing product in the **MPX** platform.

MPX series video encoders provides in addition to transparent link of PAL or NTSC video signal, bi-directional audio, independently configurable general-purpose bi-directional asynchronous data and optional bi-directional contact closure channels.

The encoded signal from **MPX** series encoder can be decoded with **MPX** or **VMX** series decoder, as well as with industry standard decoders such as Quicktime and VLC. The transmission is accomplished over 10/100Base-Tx or 100Base-Fx network utilizing IP/Ethernet streaming.

MPX series video encoders are equipped with the **MPEG-4**, **MJPEG** and **MPEG-2** video encoding engine. Available encoding combinations are MPEG-4 and MJPEG or MPEG-4, MJPEG and MPEG-2 (MPEG-2 is an add-on option, and should to be ordered separately).

The **MPEG-4** video encoding engine is compliant with the ISO/IEC14496-2 (MPEG-4@SP L5) simple profile standard. The **MJPEG** video encoding engine is compliant with the ISO/IEC 13818-2 standard. The **MPEG-2** video encoding engine is compliant with the ISO/IEC13818 (MPEG-2 MP@ML) standard.

Audio is encoded according to the **μ-law ITU G.711** standard.

General-purpose asynchronous data channels are transferred separately from the encoded video and audio signals.

Firmware version

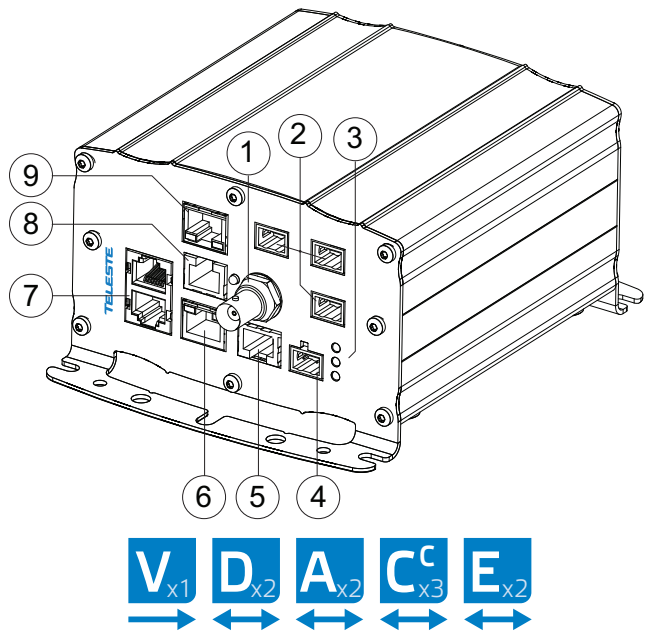
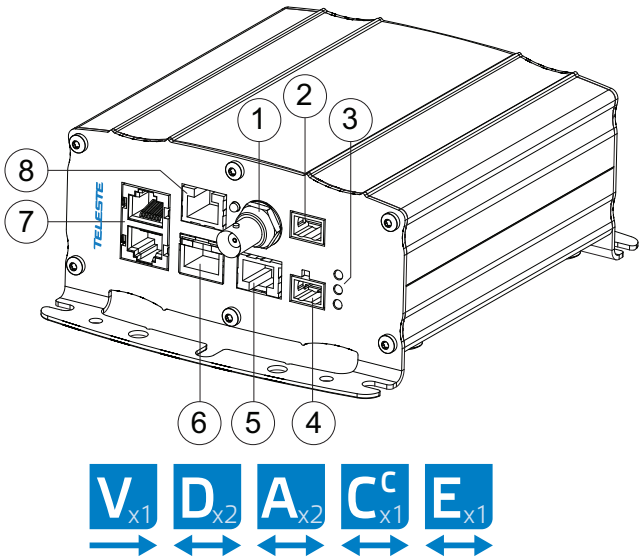
The functionality and operation of the devices described in this manual applies for firmware version **4.6.4**.

Note! *It is highly recommended to use the same firmware versions in both encoder and decoder to ensure that all features are supported by both devices (e.g. encoder 4.6.4 and decoder 4.6.3).*

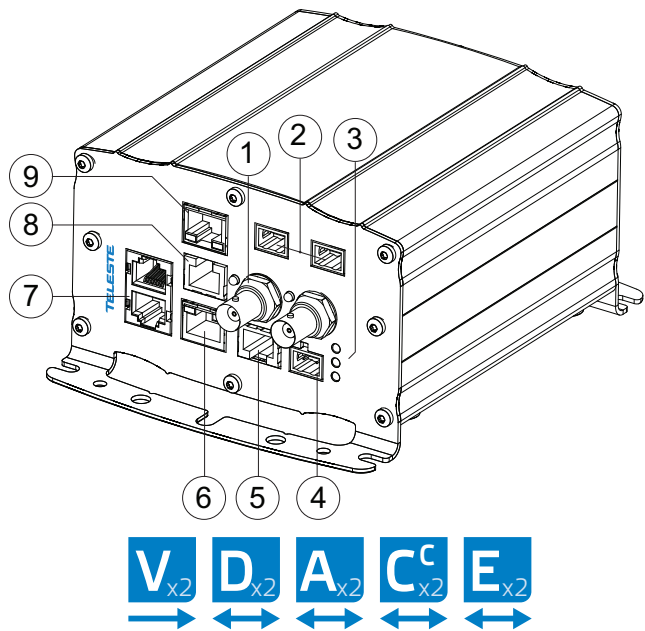
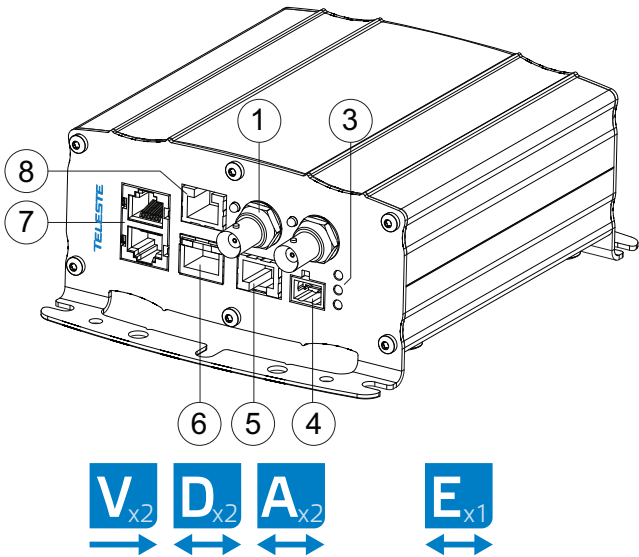
Note! *The MPX series decoder supports MJPEG decoding from firmware version 4.3.x.*

MPC Series Video Encoders Front Panel

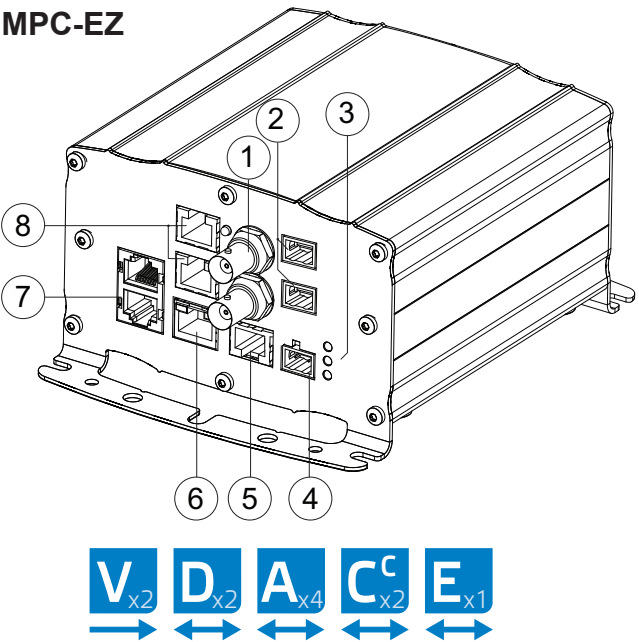
MPC-E1 combinations



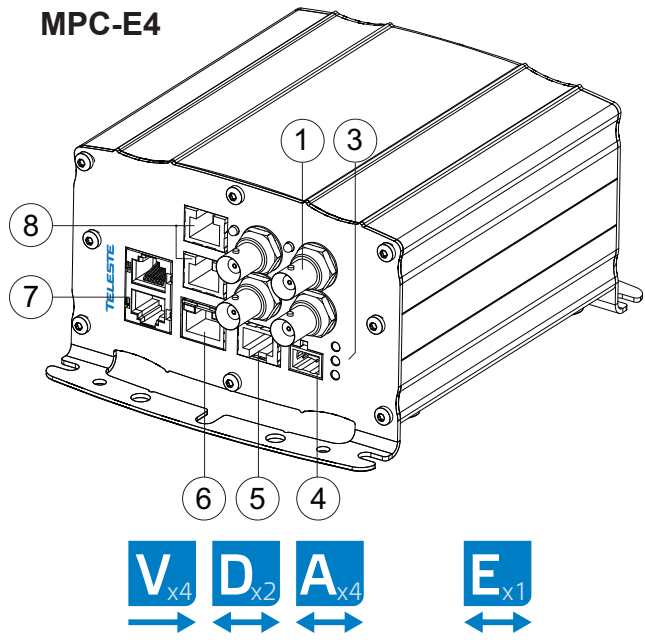
MPC-E2 combinations



MPC-EZ



MPC-E4



MPC series video encoders mechanical connections

1. **Video** input(s) connector (BNC female) and indicator leds.
2. **Contact closure** interfaces (4-pin screw terminal).*
3. **Led indicators**. See tables below for detailed description.
4. **Power supply** connector (2-pin screw terminal, +12 VDC).
5. **Management** connection (CLI) (RJ-45 female).
6. **Fast Ethernet** up-link interface (port A). Either **electrical** (RJ-45 female) or **optical** (LC).
7. **Data** interfaces, EIA RS232/422/485 (RJ-45 female).
8. **Audio** line connection (RJ-45 female).
9. **Fast Ethernet** interface (port B), fixed (RJ-45 female).*

* optional

Led	Colour	Mode
T	Green	Port configured
	Blinking green	On stream
	Yellow	Link missing
	Dark	Port not configured

T - (terminal server) Led indicator operation.

Led	Colour	Mode
L	Green	Link OK
	Yellow	Link missing or level too low
	Dark	Not in use

L - (Ethernet network link) led indicator operation

Only A-port up and configured:

- Green when A-port has cable connected
- Yellow when A-port has not cable (B-port doesn't affect)

Only B-port up and configured:

- Green when B-port has cable connected
- Yellow when B-port has not cable (A-port doesn't affect)

Both A- and B- ports up and configured:

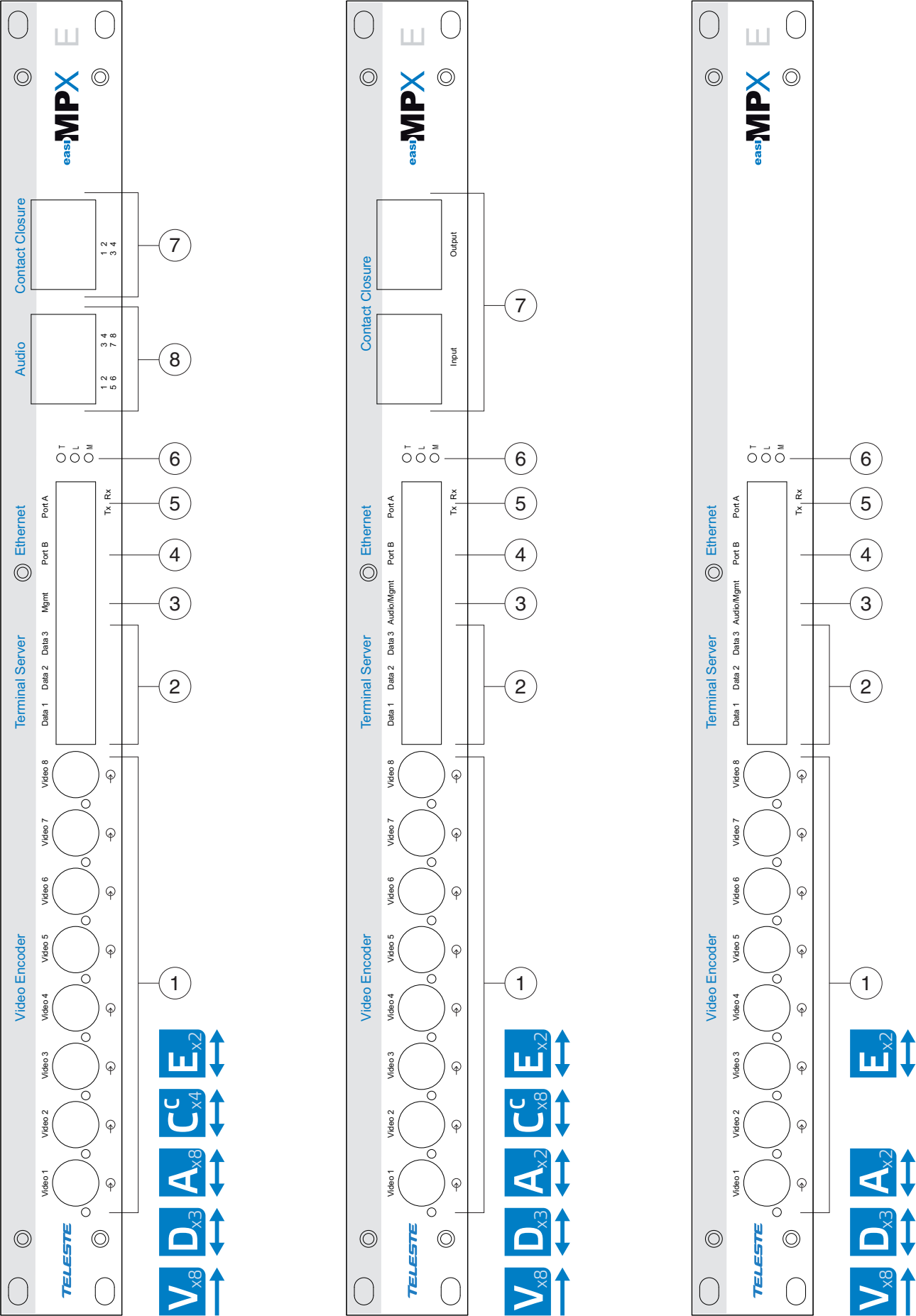
- Green when both A- and B-ports has cable connected
- Yellow when either of the cables is disconnected

Led	Colour	Mode
M	Green	Power ON
	Blinking green	Device is being configured from the web interface
	Red	Hardware error

M - (module) Led indicator operation.

MPX Series Video Encoders Front Panel

MPX-E8 combinations



MPX series video encoders mechanical connections

1. **Video** input(s) connector (BNC female) and indicator leds.
2. **Data** interfaces, EIA RS232/422/485 (RJ-45 female).
3. **Management** connection (CLI) (RJ-45 female) and **Audio** line connection, two channel (RJ-45 female).
4. **Fast Ethernet** interface (port B), fixed (RJ-45 female).
5. **Fast Ethernet** up-link interface (port A). Either **electrical** (RJ-45 female) or **optical** (LC).*
6. **Led indicators**. See tables below for detailed description.
7. **Contact closure** interfaces (8-pin screw terminal).*
8. **Audio** line connection, eight channel (RJ-45 female).*

* optional

Led	Colour	Mode
T	Green	Port configured
	Blinking green	On stream
	Yellow	Link missing
	Dark	Port not configured

T - (terminal server) Led indicator operation.

Led	Colour	Mode
L	Green	Link OK
	Yellow	Link missing or level too low
	Dark	Not in use

L - (Ethernet network link) led indicator operation

Only A-port up and configured:

- Green when A-port has cable connected
- Yellow when A-port has not cable (B-port doesn't affect)

Only B-port up and configured:

- Green when B-port has cable connected
- Yellow when B-port has not cable (A-port doesn't affect)

Both A- and B- ports up and configured:

- Green when both A- and B-ports has cable connected
- Yellow when either of the cables is disconnected

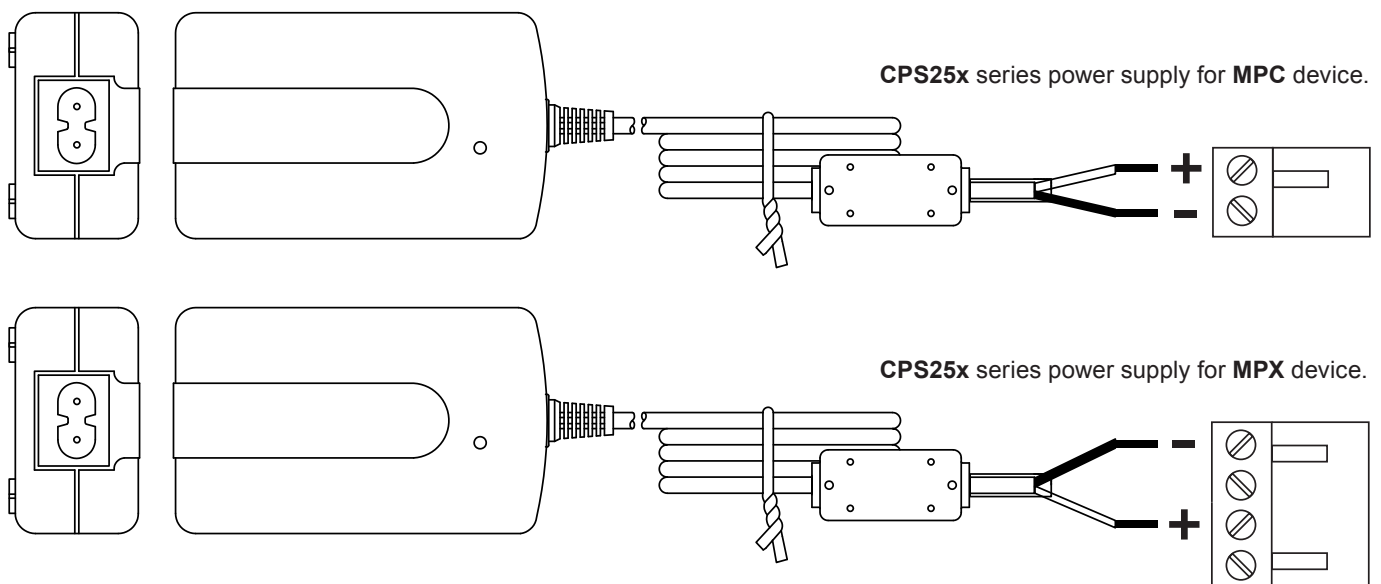
Led	Colour	Mode
M	Green	Power ON
	Blinking green	Device is being configured from the web interface
	Red	Hardware error

M - (module) Led indicator operation.

Installation

Quick instructions

- 1** Install the temperature hardened stand-alone **MPX** encoder device to the installation location. A +12 V supply voltage is provided by a **CPS25x** series power supply (see example picture bottom).
- 2** Switch on the system power and wait until the “**L**” and “**M**”- indicators on the front panel of the device are lit. The “**M**” (=module) should lit green to show that hardware is operating properly.
- 3** Connect all needed data/audio signals to their respective connectors on the device's front panel.
- 4** Connect a **CVBS** video signals to the **BNC** female connectors on the device.
- 5** Connect the **Ethernet 100Base-TX/FX** network to “**Fast Ethernet**” connector on the device's front panel.
***Note!** A local WebUI connection can be created by this connector using an Ethernet cable such as Teleste OPUS1CAA0300X cross connection cable (when CAT-5 interface).*
- 6** Create management connection to the device either over an Ethernet network or from a Mgmt port and then set all necessary settings in the device. Factory default settings for the device are the following:
10.9.96.10 (IP, eth0, Ethernet port A)
255.255.255.0 (Netmask, eth0, Ethernet port A)
10.9.96.1 (Gateway)
- 7** Make sure that the device is not indicating any alarms or warnings. The “**L**” and “**M**” - indicators on the front panel should now lit green.
***Note!** If the “**M**” indicator is red, the device in question has a hardware error and service is needed.*



Connections

General

All products in the **MPX** family have the same connection scheme in their connectors. Depending on the model, there are **Video, Data, Audio, Contact closure, Mgmt & Ethernet** connections.

Video connections

Note! Alternatively the video input impedance can be set to high mode (MPC-EZ and MPC-E1 HW version G onwards).

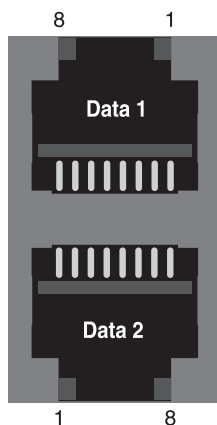
The video connector type is a BNC female. The video input impedance is 75 Ω . The nominal input level is 1 Vpp. Video inputs are wequipped with dual colour VIDEO indicator led's on the front panel. Video port settings can be configured from web user interface (WebUI).

Led	Colour	Video mode
Video	Green	Port configured and video OK
	Yellow	Port configured and no video
	Dark	Port not configured

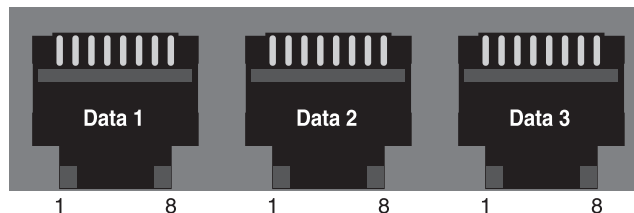
Video indicator led operation.

Data connections

All data connectors provide one bi-directional data channel. Data port settings can be configured from web user interface (WebUI). Supported data types are **RS232, RS422, RS485-2w** and **RS485-4w**. A recommended cable for data connection is Teleste **CIC603**.



MPC data connectors (2 x RJ-45 female).



MPX data connectors (3 x RJ-45 female).

Pin	Colour
1	White / green stripe
2	Green
3	White / orange stripe
4	Blue
5	White / blue stripe
6	Orange
7	White / brown stripe
8	Brown

CIC603 cable's pinout / wire colors (RJ-45 male / open wires).

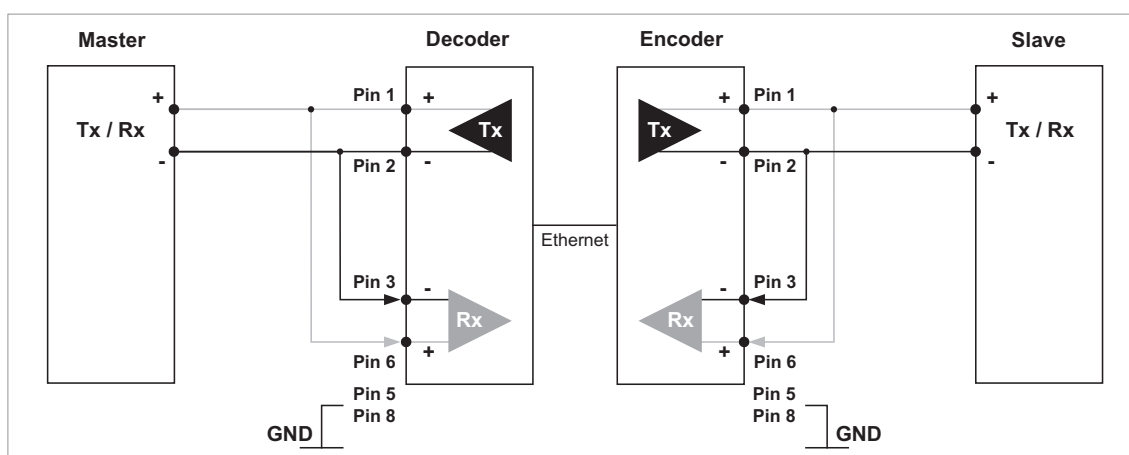
Pin	RS232	RS422	RS485-2w	RS485-4w
1		out +	in / out +	out +
2	out	out -	in / out -	out -
3		in -	in / out -	in -
4				
5	Ground	Ground	Ground	Ground
6	in	in +	in / out +	in +
7				
8	Ground	Ground	Ground	Ground

Data connector's pinout and supported data types.

RS232 is an unbalanced data format (i.e. the signal wire working against a reference – ground). Simplex RS232 requires two connections (signal and ground). Full-duplex RS232 requires three connections (signal TX, signal RX and ground).

RS422 is a balanced data format. Simplex RS422 requires three data connections (+/- and ground). Full-duplex RS422 requires five data connections (in+/in-, out+/out- and ground).

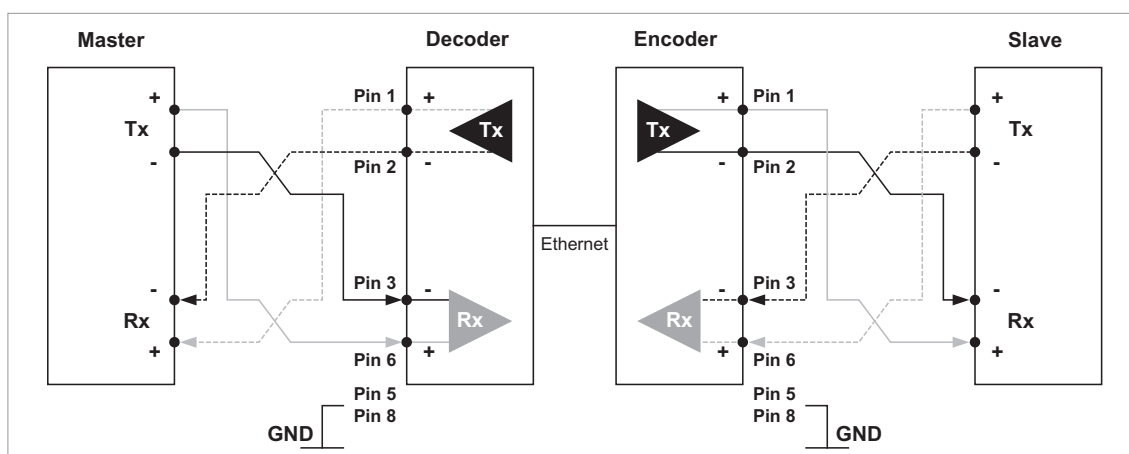
RS485 is used for full-multipoint communications where multiple transceiver devices may be connected to a single twisted-pair signal cable. Most RS485 systems use a Master/Slave architecture, where each Slave unit has a unique address and responds only to packets addressed to that unit. Packets are generated by the Master (e.g. CCTV controller keyboard), which periodically 'polls' all connected Slave units (e.g. CCTV camera receiver units). The Slave unit that has been addressed then sends the appropriate reply packet back to the Master. Slave units have no means of initiating communication without the risk of a collision so they need to be assigned the 'right to transmit' by the Master (by polling). RS485 exists in two versions, 2-wire and 4-wire.



RS485-2w data connection diagram.

A 2-wire RS485 network is implemented as a half-duplex system using single twisted-pair cabling. This means that data can flow in both directions but only in one direction at a time.

Note! Wiring for the 2-wire mode needs to be done externally on the connector.



RS422 / RS485-4w data connection diagram.

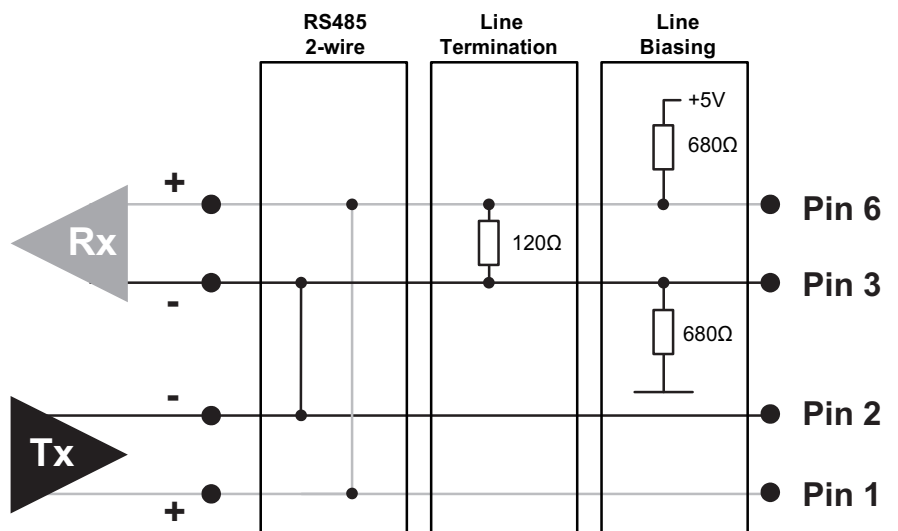
A 4-wire RS485 network can be implemented as a full-duplex system using two twisted-pair buses where each bus is used for each direction of transmission.

Data termination and biasing

The hardware support for RS-data line termination and biasing is available from version F onwards for all MPC encoders/decoders and MPX E8 encoders. The MPX D8 decoder does not have this support.

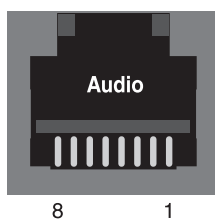
Termination is used to match impedance of a node to the impedance of the transmission line being used. When impedance are mismatched, the transmitted signal is not completely absorbed by the load and a portion is reflected back into the transmission line. If the source, transmission line and load impedance are equal these reflections are eliminated.

Biasing -> the lines will be biased to known voltages and nodes will not interpret the noise from undriven lines as actual data; without biasing resistors, the data lines float in such a way that electrical noise sensitivity is greatest when all device stations are silent or unpowered.

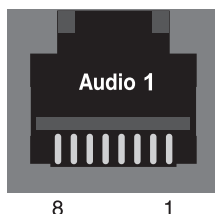
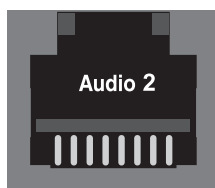


Data mode	Input termination options
RS232	None
RS422	No term (with failsafe) Line termination (120 Ω)
RS485 - 2w	No term (with failsafe) Hard bias (forced 680 Ω line biasing) Line termination (120 Ω)
RS485 - 4w	No term (with failsafe) Hard bias (forced 680 Ω line biasing) Line termination (120 Ω)

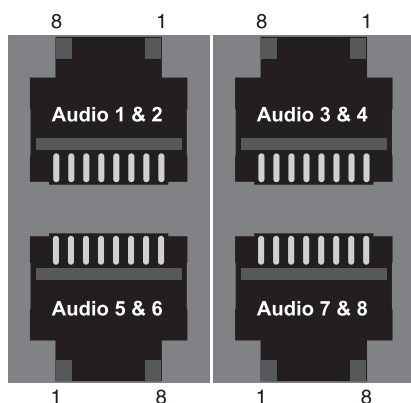
Data input termination options for data channels. Data termination connects 120 Ω between pins. Hard bias connects 680 Ω (+input) to +5V and GND (- input).



Audio connector, **two** audio channel MPC/MPX models (1 x RJ-45 female).



Audio connector, **four** audio channel MPC-E4/EZ models (2 x RJ-45 female).



Audio connectors, **eight** audio channel MPX models (4 x RJ-45 female).

Audio connection (MPC/MPX two/four audio channel models)

The Audio connector(s) provides two bi-directional audio channels, which can be used for one stereo audio or two mono audio purposes. The audio interface supports unbalanced wiring. The audio impedance is constant and cannot be adjusted. The audio input impedance is $>10\text{ k}\Omega$ and the output impedance is $<50\text{ }\Omega$. The audio channels operates independently, i.e. despite the absence of all video signals.

Pin	Unbalanced signal
1	Ground
2	
3	Ground
4	Audio 1 out
5	Audio 2 out
6	
7	Audio 1 in
8	Audio 2 in

Audio connector's pinout (two and four audio channel models). A recommended audio cable is Teleste **CIC603**.

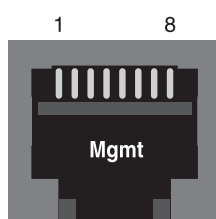
Audio connection (MPX-E8 eight audio channel models)

Each Audio connector provide two bi-directional audio channels, which can be used for one stereo audio or two mono audio purposes. The audio interface supports both balanced (both channels separately) and unbalanced wiring. The default audio input impedance is set to high impedance ($>10\text{ k}\Omega$). Alternatively the audio input impedance can be set to $600\text{ }\Omega$ (this setting requires balanced wiring for both channels). The audio output impedance is set to $10\text{ }\Omega$. The audio channels operates independently, i.e. despite the absence of all video signals.

Pin	Balanced signal	Unbalanced signal
1	Audio 1 out -	GND
2	Audio 1 out +	Audio 1 out
3	Audio 2 out -	GND
4	Audio 2 in +	Audio 2 in
5	Audio 2 in -	GND
6	Audio 2 out +	Audio 2 out
7	Audio 1 in -	GND
8	Audio 1 in +	Audio 1 in

Audio connector's pinout (eight audio channel models). A recommended audio cable is Teleste **CIC603**.

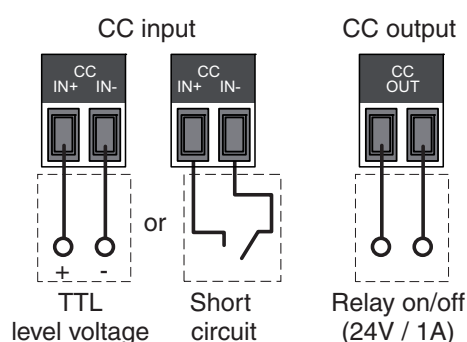
Note! RJ-45 connector's shield is grounded.



Mgmt connector (RJ-45 female).

Pin	Signal
1	Ground
2	Mgmt out
3	Ground
4	
5	
6	Mgmt in
7	
8	

Mgmt connector's pinout. A recommended management cable is Teleste **CIC504**.



Contact closure connections.

Mgmt connection

The Mgmt (Management) connector provides one bi-directional (**RS232**) data channel. The Mgmt connection is for local configuration and control of **MPX** series encoders. The command line interface (CLI) is intended for administration use, and can be accessed locally using serial terminal program or remotely using telnet program. Typical use of the CLI is to set up the IP address for the encoder, update the encoder's software and for remote diagnostics.

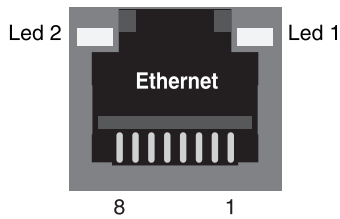
PC/PSION	D9 female	RJ-45 male	MPX encoder
Receive data	2	2	Mgmt output
Transmit data	3	6	Mgmt input
System ground	5	1	Ground

Management cable (**CIC504**) pinout (D9 female / RJ-45 male).

Contact closure loop (CCL) connection (optional)

The **MPC** series video encoders provides optionally 1 or 3 bi-directional contact closure channel lines. The **MPX** series video encoders provides optionally 4 or 8 bi-directional contact closure channel lines.

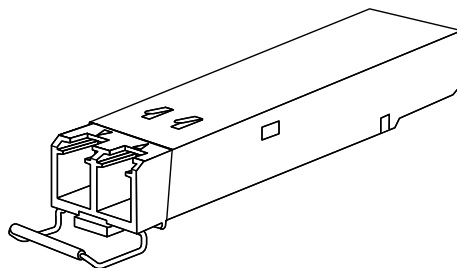
There are optionally two different CC input connection ways, one for a normal short circuit (dry contact closure) on / off - input signals between connector's contact pins (internal power source) and one for TTL level voltage input signals (data rate max 5 Hz, sink current 20 mA at 5V DC) between contact pins (external power source). CC output is a normal relay on/off - output signal (24V / 1A) between connector's contact pins. Depending on the model, the CCL connector type is a 4 or 8 - pin screw terminal.



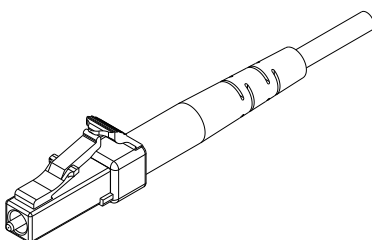
Ethernet connector (CAT5).

Pin	Signal
1	Tx +
2	Tx -
3	Rx +
4	
5	
6	Rx -
7	
8	

Ethernet connector's pinout (CAT5).



SFP plug-in optical transceiver module.



Optical connector is the type of LC.

Ethernet connections

The Fast Ethernet **Port A** (eth0) interface is **10/100Base-TX** or **100Base-FX** Ethernet network interface. The connector type is either a **RJ-45 female** (when electrical) or **LC** (when optical). The **100Base-FX** Fast Ethernet **Port A** interface is a small form-factor pluggable (**SFP**).

The Fast Ethernet **Port B** (eth1) interface is a fixed **10/100Base-TX** Ethernet interface. The connector type is a **RJ-45 female**.

Led	Colour	Ethernet mode
2	Orange	Link up
	Blinking orange	On stream
	Dark	Receiving data
1	Yellow	100 Mbps
	Dark	10 Mbps

Ethernet port's (A & B) led indicator operation.

Fibre connection

The optical Ethernet up-link interface is a small form-factor pluggable (**SFP**). The small form-factor pluggable is a specification for a new generation of optical modular transceivers. The optical output level is constant and cannot be adjusted.

When installing the fibre optic cable, do not exceed the minimum bending radius when connecting cable to the system.

Note! For correct optical operation ensure that all optical connectors are cleaned immediately before mating. Connectors should always be cleaned using high purity alcohol (e.g. methyl or isopropyl alcohol). Dry the surfaces using clean compressed air or other equivalent pressurised gas. The optical connectors on the equipment should always be protected with dustcaps when there is no fibre inserted.

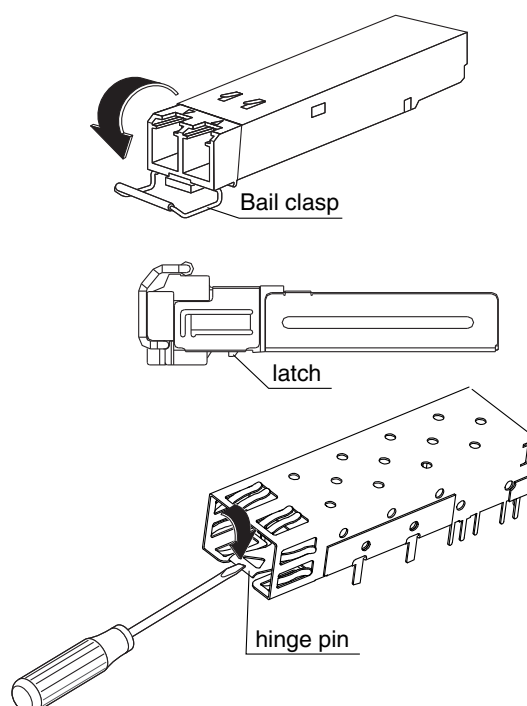
Optical Ethernet connection meets class 1 laser safety requirements of IEC 60825-2: 2004 and US department of health services 21 CFR 1040.10 and 1040.11 (1990) when operated within the specified temperature, power supply and duty cycle ranges.



How to unplug or plug-in the SFP transceiver module

If your up-link port requirements change, simply unplug the existing SFP module, and plug-in the new module. The SFP transceiver modules must be installed before the encoder is powered on.

The SFP transceiver module has a bale-clasp latch that makes easier to install or remove the module. Protect the SFP module by inserting a clean dustplug into the module after you remove the fiber cable. Be sure to clean the optic surfaces of the fiber cable before you plug the cable into another module. When using 2 fibre version SFP, check which connector plug is send (Tx) and which is receive (Rx) .



SFP module's locking release points.

To unplug and plug-in the SFP module, follow these steps

1. Open the bale clasp on the SFP module by pressing the clasp downward until it is in a horizontal position.
2. Use a small flat-blade screwdriver or other long, narrow instrument to push on the hinge pin to unlock the SFP cage latch.
3. Grasp the SFP module by the bale clasp and gently pull it out of the SFP cage.

To plug-in the module:

4. Orient the transceiver with the bale clasp on the bottom, close the bale clasp by pushing it up over the transceiver, then gently insert the transceiver into the port until it clicks into place.

Video streaming



MPC-E1 contains one video input and one media processing unit (MPU).



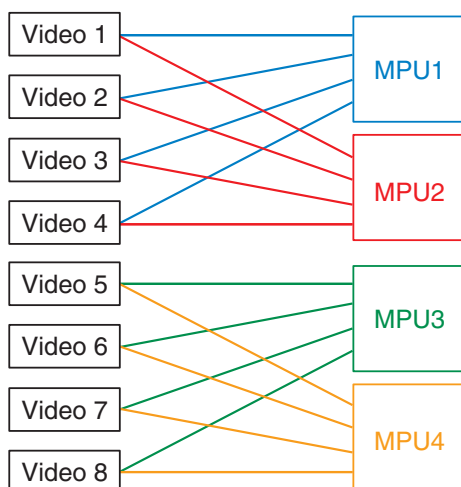
MPC-EZ contains two video inputs and two media processing units (MPUs).



MPC-E2 contains two video inputs and one media processing unit (MPU).



MPC-E4 contains four video inputs and two media processing units (MPUs).



MPX-E8 contains eight video inputs and four media processing units (MPUs).

Note! A single MPU can not encode all MPEG-4, MJPEG and MPEG-2 video standards simultaneously.

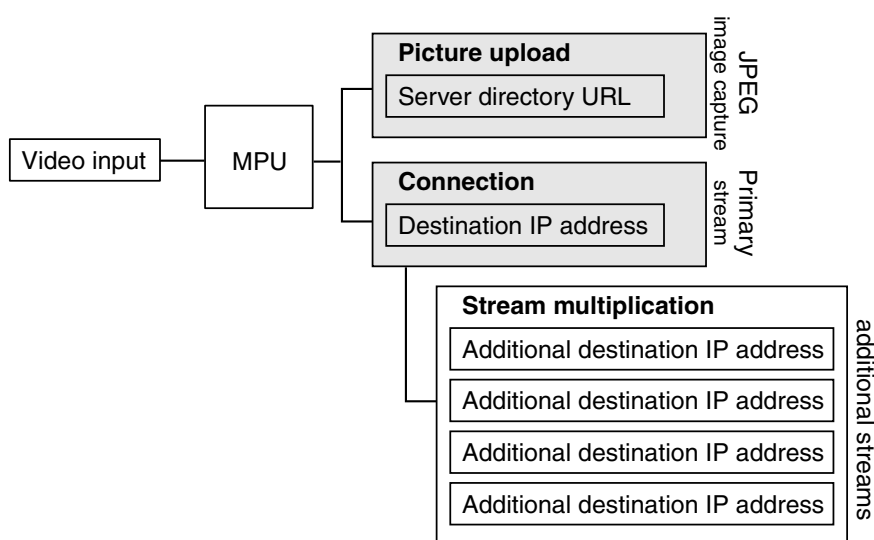
Video streaming methods

Block diagrams on the left side describe the way how MPX series encoder physical video input(s) are internally connected to MPU(s).

Video input is the physical video connector (BCN female) available for CVBS signal. MPU is a part of MPX series encoder's hardware whose mission is to process media (video, audio, pictures). Naturally each video input can be connected to a camera or any other standard PAL or NTSC video source.

Encoding profile

MPX series encoders has a total of four encoding profiles available for video inputs that are connected to one MPU. Inputs in this context mean inputs that are hardware connected to one MPU. Each encoding profile can be set separately for individual resolution, frame rate, GOP structure and I/P-frame complexity, within the calculation power of the MPU. In case of full resolution and full frame rate video, such as D1 and 4CIF, one profile takes almost the full capacity of one MPU.



This block diagram describes single encoding profile max. performance.

Video	MPC-E1	MPC-E2	MPC-E4	MPC-EZ	MPX-E8
Inputs (video connectors)	1	2	4	2	8
Encoding profiles	4	4	8	8	16
Output streams (total)	20	20	40	40	80
JPEG captures	4	4	8	8	16

Available video streaming performance for MPX series encoders.

Note! MPX series encoders video streaming performance could overload Fast Ethernet throughput depending on number of streams/bitrate combination. Be sure that the configuration does not exceed Fast Ethernet port throughput. E.g. as an example: MPC-E4 number of encoded streams 30, bitrate 4000 kbps = 120 Mbps -> Fast Ethernet throughput is exceeded.

Video stream multiplication

Each video encoding profile can be assigned with five (5) different destination addresses (primary stream and additional streams). These addresses can be freely set to unicast, multicast or a combination of these. In addition there is a tick box that enables to filter out P-frames from each output stream for low frame rate applications. This approach provides for a very cost efficient dual streaming in situations where the low frame rate stream is a direct subset of the higher frame rate stream. In practise this means that the number of I-frames is the common nominator.

As an example, one MPC-E4 unit can stream (unicast or multicast) 4 x 2CIF@25fps for monitoring and 4 x 2CIF@3fps (unicast or multicast) for recording simultaneously. The precondition of this is that the number of I-frames per second in the primary stream is configured with I-frame interval setting to match the frame rate of the low fps stream. In the example above the I-frame interval of the primary stream would need to be 8 (GOP = IPPPPPPPIPPPPPPPIPP...) generating 3 I-frames per second thus resulting in 3fps stream when P-frames are filtered out.

The use of multiple destination addresses up to a certain degree doesn't load the MPU; however one should take into account that the aggregate bit rate of all output streams does not exceed the capacity of the 100Mbps interface.

JPEG image capture

Additionally there is a JPEG image capture feature that allows taking JPEG snapshots from the video and storing them into a ftp server. It is also possible view JPEG captures with http. There are four JPEG capture channels available for each MPU. See pages 32-35 how to configure JPEG image captures (i.e. picture upload settings).

How to change the settings

General

This chapter tells how you can configure and check the settings of **MPX** series video encoders with the help of web user interface (WebUI) or command line interface (CLI).

Web user interface (WebUI)

Teleste's WebUI provides an user friendly way to configure and manage **MPX** series video encoders. WebUI can be accessed using Internet browser such as Internet Explorer.

Command line interface (CLI)

Teleste's **MPX** series video encoders include also a text-based user interface (CLI) for configuration purposes. CLI is accessed through any terminal emulator application, locally using serial connection (e.g. Hyper Terminal) or remotely using TCP/IP (e.g. PuTTY).

User groups

There are different user levels, which are determined by the username and password. The username and password can be change via the WebUI and CLI.

User group	Username	Password	Authority
Administrator	admin	easix	Read and write access to all pages and all settings
Operators	-	-	Read-only access

User groups for WebUI and CLI.

Note! See section user management, page 38.

Factory reset

The factory reset can be done via **CLI** with eraseconf command (see page 63), or enabling **interactive mode** while rebooting/starting the device (requires connection through management port locally).

Note! CLI's eraseconf command doesn't clear IP configuration.

How to enable the interactive mode:

1. Connect to the device via management port (as local CLI connection method), see page 56
2. Reboot the switch
3. While the switch is restarting, press Ctrl-C when the "Press Ctrl-C now to activate interactive mode" text appears on the screen
4. Select the required mode (enter letter and press enter):
 - f - clears all configuration (including IP-configuration)
 - c - clears configuration (all except IP-configuration)

Web user interface (WebUI)

General

The **MPX** series video encoders can be fully controlled using Web user interface (WebUI). You can access the Web user interface either locally using Ethernet crossover cable such as Teleste **OPUS1CAA0300X** (when CAT-5 interface) or remotely over the Ethernet connection.

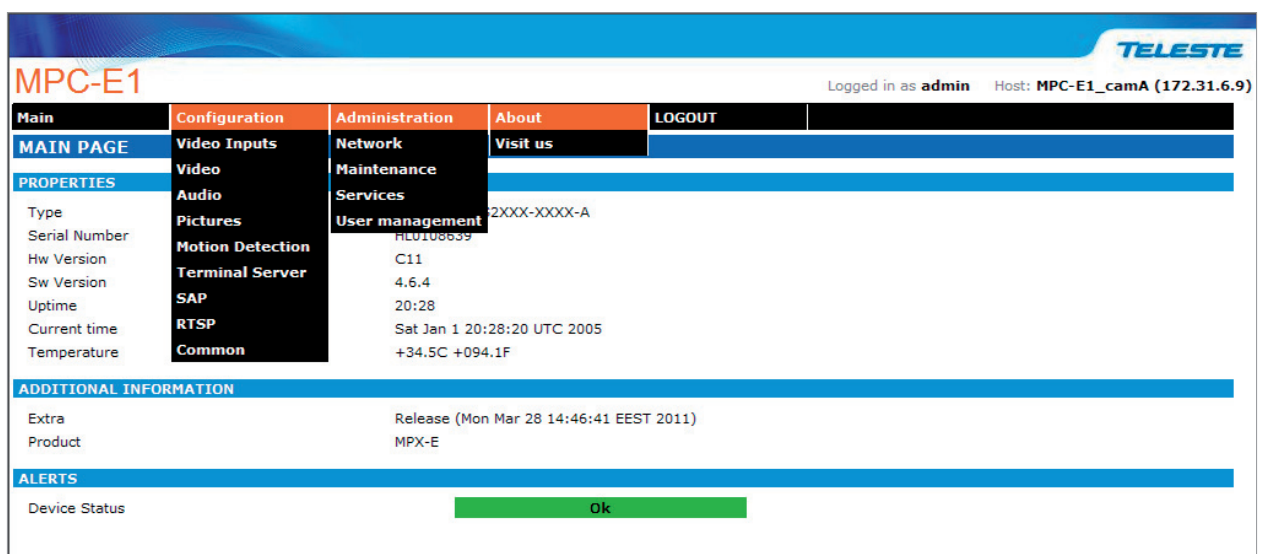
System requirements for WebUI

- * PC equipped with an Ethernet Network card and an Internet browser installed
- * Cross-connected Ethernet cable (e.g. type **OPUS1CAA0300X**)

Operation

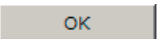
Web user interface window consists of several pages. Only one page is visible at the time. You can activate a page simply by clicking the page's heading (see picture below).

The Web user interface has the following configuration display pages that are introduced in this document:



The information on configuration pages is shown in data fields or boxes. The settings can be changed in the data fields and boxes having white background. Place the cursor in the desired data field or box and enter a new setting. Some settings are entered by ticking a checkbox or clicking on a radio button, by selecting from a pull-down list or by scrolling digits with the help of spin buttons. Information without datafield or box is a read only parameter and cannot be changed.

Press keyboard's F5 button to refresh the WebUI page view.

When changing the settings, always click  button to confirm settings.

MPC-E1

Host: MPC-E1_camA (172.31.6.9)

USER:
PASSWORD:
Login

MAIN PAGE

PROPERTIES

Type	MPC E1KX-FS2XXX-XXXX-A
Serial Number	HL0108639
Hw Version	C11
Sw Version	4.6.4
Uptime	20:39
Current time	Sat Jan 1 20:39:27 UTC 2005
Temperature	+34.5C +094.1F

ALERTS

Device Status
Ok

Starting

To create a WebUI session to the device, first enter the device IP address into the web browser's address bar, i.e. **172.31.6.9**. The following Web user interface's MAIN PAGE will appear on the screen. Write the required username and password (see bottom) in the fields and then click Login button to continue --> Web user interface's MAIN PAGE appears on the screen (see picture above). Front panel M-led blinks for successful login.

The Web user interface session to **MPX** series video encoders is now active.

***Note!** User can logout either by selecting Logout from menu bar or by closing the browser. WebUI session can also automatically expire and logout within 60 minutes if no activity.*

USER:
PASSWORD:
Login

Note!** MPX series video encoders default factory IP address is **10.9.96.10

Main	Configuration	Administration	About	LOGOUT
MAIN PAGE				
PROPERTIES				
Type	MPC E1KX-FS2XXX-XXXX-A			
Serial Number	HL0108639			
Hw Version	C11			
Sw Version	4.6.4			
Uptime	20:42			
Current time	Sat Jan 1 20:41:49 UTC 2005			
Temperature	+34.5C +094.1F			
ADDITIONAL INFORMATION				
Extra	Release (Mon Mar 28 14:46:41 EEST 2011)			
Product	MPX-E			
ALERTS				
Device Status	Ok			

MAIN PAGE

The MAIN PAGE is opened after the WebUI session has been established to the **MPX** series video encoder. This page shows device's current properties and alerts.

Logged in as: User's authority class

Host: Alias name for the device (uniquely identifies each device in the network) and it's IP address

PROPERTIES

Type: Device type (part number)

Serial Number: Device serial number

HW Version: Device hardware version

SW Version: Device firmware version

Uptime: Device uptime

Current time: Device current time

ADDITIONAL INFORMATION

Extra: Timestamp for the release of firmware

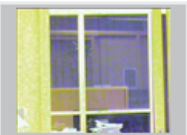
Product: Firmware type (e.g. in encoders MPX-E and in decoders MPX-D)

ALERTS

Device Status: Shows device's current status. The colour bar change color to reflect the status of the device. Green colour bar with Ok text indicates that there is no alert(s). Yellow colour bar with text indicates that there is alert(s).

Main
Configuration
Administration
About
LOGOUT

VIDEO INPUT SETTINGS



Input	Status	Brightness	Contrast	Saturation	Color mode	Impedance	Masking
Video 1	active	-20 %	10 %	0 %	Color	750hm	disabled

Edit Video Input Settings

When monitoring an area for security, there may be certain parts within the camera's field of view that need to be kept private. Masking is a feature that enables these areas to be concealed from view.

VIDEO INPUT SETTINGS

Click “**Video Inputs**” menu under the Configuration heading. Video input settings page appears on the screen. This page shows device's video input settings.

PROPERTIES

- Input:** Alias name for the video input
- Status:** Shows video status. The colour bar change color to reflect the status of the video. Green colour bar means that there is no alert(s). Yellow colour bar with text tells that there is alert(s).
- Brightness:** Brightness value for the video channel
- Contrast:** Contrast value for the video channel
- Saturation:** Saturation value for the video channel
- Colour mode:** Colour mode for video input
- Impedance:** Impedance for video input
- Masking:** Shows masking status

Main	Configuration	Administration	About	LOGOUT				
VIDEO INPUT SETTINGS - MODIFY								
Input	Brightness	Contrast	Saturation	Color Mode	Impedance	Masking	Masking Mode	
Video 1	-20 %	10 %	0 %	Color		☐	Normal	Mask Editor OK Cancel

Masking settings can be changed by clicking this link

VIDEO INPUT SETTINGS - MODIFY

Click "[Edit Video Inputs](#)" menu under the Configuration heading. Video input settings page appears on the screen. This page shows device's video input settings.

PROPERTIES

- Input:** Alias name for the video input
- Brightness:** Brightness value for the video channel (+/-50%)
- Contrast:** Contrast value for the video channel (+/-50%)
- Saturation:** Saturation value for the video channel (+/-100%)
- Colour Mode:** The colour mode for each video input can be set to match with the type of camera connected:
- Auto: Day and Night camera
 - Colour: Colour camera
 - B&W: Black & White camera
- Note!** With some day/night camera models the transition between B&W and colour mode is not always correctly detected. In this case it is recommended to set the Colour Mode manually to Colour or B&W.*
- Impedance:** Not in use
- Masking:** When monitoring an area for security, there may be certain parts within the camera's field of view that need to be kept private. Masking is a feature that enables these areas to be concealed from view.
- Masking Mode:** Normal or fully masked. In the normal mode masking area is adjustable with mask editor and in the fully masked mode whole area is masked (darken picture)
- [Mask Editor:](#)** Opens the mask editor window, where the user can configure the encoder to automatically hide certain areas with a mask, which can be adjusted in terms of its colour.

Main	Configuration	Administration	About	LOGOUT
MASK EDITOR - VIDEO INPUT 1				
 MASKING SETTINGS Enable masking ☒ EDIT TOOLS Refresh video ☒ Painting mode ☐ ☒ Masking mode ☒ Brush size x2 Mask color green OK Cancel Painted area is chosen for watching.				

VIDEO INPUT SETTINGS - MODIFY

Click [Mask Editor](#) menu under the VIDEO INPUT SETTINGS - MODIFY heading. Mask editor page appears on the screen. User can configure the encoder to automatically hide certain areas with a mask, which can be adjusted in terms of its colour.

MASK EDITOR - VIDEO INPUT 1

MASK EDITOR page contains settings for hiding certain areas from the encoded picture.

EDIT TOOLS

- Refresh video:** Enables/disables automatic video refreshing
- Painting mode:** Painting mode adds area for watching --> highlights area
- Masking mode:** Masking mode removes area for watching --> hides area
- Brush size:** Select brush size for masking (x 1/2/3/4)
- Mask colour:** Select brush colour for masking (gray/red/green/blue)

EASI MPX-E8

TELESTE

Logged in as admin

Host: unnamed (172.16.200.2)

Main

Configuration

Administration

About

LOGOUT

VIDEO ENCODING SETTINGS

Video Standard: PAL

MPEG4	Input	Stream Name	Status	Destination IP Address	UDP Port	Resolution	Bitrate	Framerate
MPEG4 1	Video 1	MPEG-4 video	Ok	224.0.1.1	5001	D1	8000 kbps	25

MPEG2	Input	Stream Name	Status	Destination IP Address	UDP Port	Resolution	Bitrate	Framerate
MPEG2 5	Video 2	MPEG-2 video	Ok	224.0.1.1	6001	D1	8000 kbps	25

MJPEG	Input	Stream Name	Status	Destination IP Address	UDP Port	Resolution	Bitrate/Quality	Framerate
MJPEG 9	Video 8	MJPEG video	Ok	224.0.1.1	7001	D1	8000 kbps	25

Edit Video Encoding Settings

Device video encoding settings can be changed by clicking this link

Link To SDP file (Session Description Protocol). The SDP file contains stream parameters that are meant for 3rd party applications (e.g. SW decoders) to open/view the stream.

VIDEO ENCODING SETTINGS

Click “**Video**” menu under the Configuration heading. Depending on the configuration, either MPEG4, MJPEG or MJPEG2 encoding settings page appears on the screen. This page shows device’s video encoding settings.

Video standard: Video standard type (PAL or NTSC), can be change from COMMON SETTINGS - MODIFY page

Input: Active video input(s)

Stream name: User definable alias name for the video input

Status: Video status, either active or no signal

Destination IP address: Multicast: Multicast IP address / multicast group
Unicast: IP address of receiving decoder

UDP port: UDP port number

Resolution: (*MJPEG only) Video resolution, either QCIF/CIF/2CIF/4CIFad/4CIF/4CIFpi* or D1

Bitrate: Encoded video bitrate, 9.6 Kbps...8 Mbps (MPEG-4/MJPEG/MPEG-2)

Framerate: Encoded video framerate, 1...30 fps (MPEG-4/MJPEG/MPEG-2)

Edit Video Encoding Settings: Opens video encoding settings page

Resolution	PAL	NTSC	Framerate	Interlaced	Note
D1	720 x 576	720 x 480	25 PAL, 30 NTSC	Yes	
HALF D1	352 x 576	352 x 480	25 PAL, 30 NTSC	Yes	
4CIFad	704 x 576	704 x 480	1...25 PAL, 1...30 NTSC	Yes	
4CIF	704 x 576	704 x 480	1...25 PAL, 1...30 NTSC	No	
4CIFpi	704 x 576	704 x 480	1...25 PAL, 1...30 NTSC	Yes	MJPEG only
2CIF	704 x 288	704 x 240	1...25 PAL, 1...30 NTSC	No	
CIF	352 x 288	352 x 240	1...25 PAL, 1...30 NTSC	No	
QCIF	176 x 144	176 x 112	1...25 PAL, 1...30 NTSC	No	

Available video resolutions.

VIDEO ENCODING SETTINGS - MODIFY

Video Standard: PAL

Common	Connection	Stream Multiplication	Advanced	Video Overlay Position	Video Overlay Content																																																																																																
MEDIA PROCESSING UNIT 1 RESOURCE METER																																																																																																					
<table border="1"> <thead> <tr> <th>MPEG4</th> <th>Input</th> <th>Name</th> <th>Active</th> <th>Resolution</th> <th>Bitrate Mode</th> <th>Bitrate/Quality</th> <th>Framerate</th> </tr> </thead> <tbody> <tr> <td>☒ MPEG4 1</td> <td>Video 1</td> <td>Camera A</td> <td>☒</td> <td>4CIF</td> <td>VBR Capped</td> <td>6000 kbps 1 QP</td> <td>25</td> </tr> <tr> <td>☐ MPEG4 2</td> <td>Video 1</td> <td></td> <td>☐</td> <td>2CIF</td> <td>CBR</td> <td> kbps QP</td> <td></td> </tr> <tr> <td>☐ MPEG4 3</td> <td>Video 1</td> <td></td> <td>☐</td> <td>2CIF</td> <td>CBR</td> <td> kbps QP</td> <td></td> </tr> <tr> <td>☐ MPEG4 4</td> <td>Video 1</td> <td></td> <td>☐</td> <td>2CIF</td> <td>CBR</td> <td> kbps QP</td> <td></td> </tr> <tr> <td colspan="8">MPEG2</td> </tr> <tr> <td>☐ MPEG2 1</td> <td>Video 1</td> <td></td> <td>☐</td> <td>D1</td> <td> kbps</td> <td></td> <td></td> </tr> <tr> <td colspan="8">MJPEG</td> </tr> <tr> <td>☐ MJPEG 1</td> <td>Video 1</td> <td></td> <td>☐</td> <td>CIF</td> <td>CBR</td> <td> kbps</td> <td></td> </tr> <tr> <td>☐ MJPEG 2</td> <td>Video 1</td> <td></td> <td>☐</td> <td>CIF</td> <td>CBR</td> <td> kbps</td> <td></td> </tr> <tr> <td>☐ MJPEG 3</td> <td>Video 1</td> <td></td> <td>☐</td> <td>CIF</td> <td>CBR</td> <td> kbps</td> <td></td> </tr> <tr> <td>☐ MJPEG 4</td> <td>Video 1</td> <td></td> <td>☐</td> <td>CIF</td> <td>CBR</td> <td> kbps</td> <td></td> </tr> </tbody> </table>						MPEG4	Input	Name	Active	Resolution	Bitrate Mode	Bitrate/Quality	Framerate	☒ MPEG4 1	Video 1	Camera A	☒	4CIF	VBR Capped	6000 kbps 1 QP	25	☐ MPEG4 2	Video 1		☐	2CIF	CBR	kbps QP		☐ MPEG4 3	Video 1		☐	2CIF	CBR	kbps QP		☐ MPEG4 4	Video 1		☐	2CIF	CBR	kbps QP		MPEG2								☐ MPEG2 1	Video 1		☐	D1	kbps			MJPEG								☐ MJPEG 1	Video 1		☐	CIF	CBR	kbps		☐ MJPEG 2	Video 1		☐	CIF	CBR	kbps		☐ MJPEG 3	Video 1		☐	CIF	CBR	kbps		☐ MJPEG 4	Video 1		☐	CIF	CBR	kbps	
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QP (Quantization Parameter) 1 to 31.
1 means best quality and higher bit-rate requirement,
31 means low picture quality and lower bit-rate requirement.

VIDEO ENCODING SETTINGS - MODIFY

4CIF resolutions

4CIF - This mode takes one of the fields from the interlaced video source and scales it up into 4CIF image before the encoding takes place. This mode is intended to be shown in progressive monitor.

4CIFad - This mode combines odd and even fields from the interlaced video source with motion adaptive de-interlace filter. This is optimum mode for progressive monitor.

4CIFpi - This mode is an equivalent to D1 except for the resolution. It combines odd and even fields from the interlaced video source without any advanced processing. This is optimum mode for decoder feeding analogue monitor. In case of progressive monitor, the proper decoding of this mode requires the use of de-interlacing filter in the SW decoder.

Common

Click "[Edit video encoding settings](#)" menu under the VIDEO ENCODING SETTINGS heading. Video encoding settings - modify / [Common](#) page appears on the screen. Device video common settings can be changed on this page.

VIDEO SETTINGS - MODIFY pages (Common, Connection, Stream Multiplication, Advanced, Video Overlay Position and Video Overlay Content) contain one (MPC-E1/E2) or two (MPC-E4) or four (MPX-E8) MEDIA PROCESSING UNIT (MPU) blocks. Each MPU contains four separated encoding profiles which can be individually configured.

MEDIA PROCESSING UNIT

Input: Enable/disable video input

Name: User definable alias name for the video input (max 16 chars)

Active: Active/inactive video input

Resolution: Video resolution, either QCIF/CIF/2CIF/4CIFpi/4CIF/4CIFpi/half D1 or D1.

The processing bar next to MEDIA PROCESSING UNIT 1...4 header inform encoding capacity of the device. The processing bar colour must be green, if the processing bar goes to red, the resolution settings are not acceptable

Bitrate mode: Encoded video bitrate mode, either CBR (1...8192 kbps), VBR or VBR capped (1...31 QP / 0...100%). The capped value defines the maximum allowed bit-rate

Bitrate: Encoded video bitrate;
MPEG-4 / MJPEG: 9.6 Kbps...8 Mbps, MPEG-2: 128 Kbps...8 Mbps

Framerate: Encoded video framerate;
MPEG-4 and MJPEG: 1...25 for PAL, 1...30 for NTSC
MPEG-2: 25 for PAL, 30 for NTSC

Note! have to be integer value

VIDEO ENCODING SETTINGS - MODIFY

Video Standard: PAL

[Common](#)[Connection](#)[Stream
Multiplication](#)[Advanced](#)[Video
Overlay
Position](#)[Video
Overlay
Content](#)

MEDIA PROCESSING UNIT 1 RESOURCE

MPEG4	Input	Name	Pause	Destination IP Address	UDP Port	DSCP	P-Frame Filter
MPEG4 1	Video 1		☐	226.2.20.1	8202	0	☐
MPEG4 2	Video 1		☐				☐
MPEG4 3	Video 1		☐				☐
MPEG4 4	Video 1		☐				☐
MPEG2	Input	Name	Pause	Destination IP Address	UDP Port	DSCP	
MPEG2 1	Video 1		☐			0	
MJPEG	Input	Name	Pause	Destination IP Address	UDP Port	DSCP	
MJPEG 1	Video 1		☐				
MJPEG 2	Video 1		☐				
MJPEG 3	Video 1		☐				
MJPEG 4	Video 1		☐				

VIDEO ENCODING SETTINGS - MODIFY

RTCP note:

RTP is used in conjunction with the RTP Control Protocol (RTCP). While RTP carries the media streams (e.g., audio and video), RTCP is used to monitor transmission statistics and aids synchronization of multiple streams. When both protocols are used in conjunction, RTP is originated and received on even port numbers and the associated RTCP communication uses the next higher odd port number. If port numbers are configured differently, then unexpected problems may occur in decoding. RTCP designed to synchronize the video and audio timestamps according to NTP time when they transfer over RTP.

For instance :

6006 Video RTP
6007 Video RTCP
6008 Audio 32k RTP
6009 Audio RTCP

[Connection](#)

Click "[Connection](#)" menu under the VIDEO ENCODING SETTINGS - MODIFY heading. Video encoding settings - modify / connection page appears on the screen. Device video connection settings can be changed on this page.

MEDIA PROCESSING UNIT

Destination IP address: Multicast: Multicast IP address / multicast group.
This multicast IP address has to be same at both encoder and corresponding decoders

Note! Gateway address is necessary for multicasting.
Device IP and gateway addresses must be in the same network. The Gateway address must be set before enabling multicast.

Unicast: IP address of receiving decoder

UDP port: UDP port number (0...65535). This number has to be same at both encoder and decoder pairs

Note! Although both even and odd UDP port numbers are supported, it is recommended to use even port numbers to ensure compatibility with some of the standard software decoders.

DSCP: (Definition of the Differentiated Services) field lets you set bits in the stream IP header allowing a network device to apply rules such as how the packet is forwarded in the network and

P-Frame Filter: QoS (Quality of service) management.

Enable/disable to filter out P-frames from selected output stream for low frame rate applications.

Note! P-Filter is not possible for interlaced video, such as D1 or Half D1.

MPC-E1

Logged in as **admin** Host: **MPC-E1_camA (172.31.6.9)**

Main
Configuration
Administration
About
LOGOUT

VIDEO ENCODING SETTINGS - MODIFY

Video Standard: **PAL**

Common

Connection

Stream Multiplication

Advanced

Video Overlay Position

Video Overlay Content

MEDIA PROCESSING UNIT 1 RESOURCE METER

MPEG4	Input	Name	Pause	Additional Destination IP Address	Additional UDP Port	DSCP	Filtering (Normal/Triggered)
MPEG4 1(1)	Video 1	Camera A	☐			0	0: Pass all frames
MPEG4 1(2)		Camera A	☐			0	0: Pass all frames
MPEG4 1(3)		Camera A	☐			0	0: Pass all frames
MPEG4 1(4)		Camera A	☐			0	0: Pass all frames
MPEG4 2(1)	Video 1		☐				0: Pass all frames
MPEG4 2(2)			☐				0: Pass all frames
MPEG4 2(3)			☐				0: Pass all frames
MPEG4 2(4)			☐				0: Pass all frames
MPEG4 3(1)	Video 1		☐				0: Pass all frames
MPEG4 3(2)			☐				0: Pass all frames
MPEG4 3(3)			☐				0: Pass all frames

VIDEO ENCODING SETTINGS - MODIFY

Stream Multiplication

Click "[Stream Multiplication](#)" menu under the VIDEO ENCODING SETTINGS - MODIFY heading. Vide settings modify / stream multiplication page appears on the screen.
Device video stream multiplication settings can be changed on this page.

MEDIA PROCESSING UNIT

Additional Destination IP Address: These addresses can be freely set to unicast, multicast or a combination of these

Additional UDP Port: Additional UDP port number (0...65535). This number has to be same at both encoder and corresponding decoders

DSCP: (Definition of the Differentiated Services) field lets you set bits in the stream IP header allowing a network device to apply rules such as how the packet is forwarded in the network and QoS (Quality of service) management.

P-Frame Filter: Enable/disable to filter out P-frames from selected output stream for low frame rate applications.

Note! P-Filter is not possible for interlased video, such as D1 or Half D1.

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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VIDEO ENCODING SETTINGS - MODIFY

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Video Overlay Content

MEDIA PROCESSING UNIT 1 RESOURCE METER

MPEG4	Input	Name	Active	Resolution	Bitrate Mode	Framerate	Intraframe Period	I/P Frame Size (CBR)
MPEG4 1	Video 1	Camera A	☒	4CIF	VBR Capped	25	15	100 %
MPEG4 2	Video 1		☐					%
MPEG4 3	Video 1		☐					%
MPEG4 4	Video 1		☐					%

MPEG2	Input	Name	Active	Resolution	Container Type	Framerate	GOP Format
MPEG2 1	Video 1		☐				IBBPBPPBP

MJPEG	Input	Name	Active	Resolution	Framerate
MJPEG 1	Video 1		☐		
MJPEG 2	Video 1		☐		
MJPEG 3	Video 1		☐		
MJPEG 4	Video 1		☐		

OK

Cancel

VIDEO ENCODING SETTINGS - MODIFY

[Advanced](#)

Click "[Advanced](#)" menu under the VIDEO ENCODING SETTINGS - MODIFY heading. Video settings modify / advanced page appears on the screen. Device video advanced settings can be changed on this page.

MEDIA PROCESSING UNIT

Intraframe period: This value, PAL (1..50), NTSC (1..60), indicates the I-frame interval with regards to the defined frame rate setting. A value of n will result in I-frame being generated every n^{th} frame, i.e.

$n = 1 \rightarrow \text{GOP} = \text{IIIIII} \dots$

$n = 2 \rightarrow \text{GOP} = \text{IPIPIP} \dots$

$n = 3 \rightarrow \text{GOP} = \text{IPPIPIPP} \dots$

Consequently the number of I-frames per second is dictated by the frame rate setting. With e.g. $n=3$ the result is following:

Frame rate = 25 $\rightarrow$ 8 I-frame per second

Frame rate = 3 $\rightarrow$ 1 I-frame per second

I/P Frame Size (CBR): I/P frame size (100...1000 %). Used only in CBR mode. This value provides the I-frame/P-frame size ratio (how much bigger I-frames are than P-frames in per cents). Some example values present bottom.

GOP Format: MPEG-2 GOP format, selectable I, IP, IBP, IBBP

Default value $\rightarrow$

Parameter value %	Size ratio	Explanation
100	1	I-frames are the same size than P-frames
250	2.5	I-frames are 2,5 times bigger size than P-frames
500	5	I-frames are 5 times bigger size than P-frames

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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MEDIA PROCESSING UNIT 1 RESOURCE METER

MPEG4	Input	Name	Vertical Position	Horizontal Position	Margin	Horizontal Alignment	Font Size
MPEG4 1(1)	Video 1	Camera A	top	left	20 %	auto	8
MPEG4 1(2)		Camera A	center	center	10 %	auto	10
MPEG4 1(3)		Camera A	center	center	10 %	auto	10
MPEG4 1(4)		Camera A	center	center	10 %	auto	10
MPEG4 2(1)	Video 1		top	left		auto	
MPEG4 2(2)			top	left		auto	
MPEG4 2(3)			top	left		auto	
MPEG4 2(4)			top	left		auto	
MPEG4 3(1)	Video 1		top	left		auto	
MPEG4 3(2)			top	left		auto	
MPEG4 3(3)			top	left		auto	

VIDEO ENCODING SETTINGS - MODIFY

Video Overlay Position

Video overlay is a technique used to display a text over on a video. Click "[Video Overlay Position](#)" menu under the VIDEO ENCODING SETTINGS - MODIFY heading. Video settings modify / video overlay position page appears on the screen. Device video overlay position settings can be changed on this page, i.e. what is text position on the screen.

MEDIA PROCESSING UNIT

- Vertical Position:** Text position, either top, center or bottom of screen
- Horizontal Position:** Text position, either left, center or right of screen
- Margin:** Text top margin (0...100 %)
- Horizontal Alignment:** Text alignment, either auto, left, center or right
- Font Size:** Text font size (1...30)

MPC-E1

TELESTE
 Logged in as admin Host: MPC-E1_camA (172.31.6.9)

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VIDEO ENCODING SETTINGS - MODIFY

Video Standard: **PAL**

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MEDIA PROCESSING UNIT 1 RESOURCE

MPEG4	Input	Name	Pre Text	Timestamp1	Timestamp2	Post Text
MPEG4 1(1)	Video 1	Camera A	Camera A	hh:mm:ss (24h)	none	
MPEG4 1(2)		Camera A		none	none	
MPEG4 1(3)		Camera A		none	none	
MPEG4 1(4)		Camera A		none	none	
MPEG4 2(1)	Video 1			none	none	
MPEG4 2(2)				none	none	
MPEG4 2(3)				none	none	
MPEG4 2(4)				none	none	
MPEG4 3(1)	Video 1			none	none	
MPEG4 3(2)				none	none	
MPEG4 3(3)				none	none	

VIDEO ENCODING SETTINGS - MODIFY

Video
Overlay
Content

Click "[Video Overlay Content](#)" menu under the VIDEO ENCODING SETTINGS - MODIFY heading. Video MPEG4 settings modify / video overlay content page appears on the screen. Device video overlay content settings can be changed on this page, i.e. enter text content and is time and/or date shown or not.

MEDIA PROCESSING UNIT

- Pre Text:** Enter text before time/data stamp (max 32 chars)
- Timestamp1:** Time/date stamp(s)
- Timestamp2:** Time/date stamp(s)
- Post Text:** Enter text after time/data stamp (max 32 chars)

Main	Configuration	Administration	About	LOGOUT			
AUDIO SETTINGS							
CODEC SETTINGS							
Codec		Samplerate					
AUDIO 1-2		32 kHz					
SOCKET SETTINGS							
Connector		Volume					
Audio IN Left 1		100 %					
Audio IN Right 1		100 %					
STREAM SETTINGS							
	Name	Status	IP address	Port	DSCP	Mode	Connector
AUDIO IN 1	Audio 1 in	Ok	224.0.1.1	3010		Mono	Audio OUT Right 1
AUDIO IN 2	Audio 2 in	Ok	224.0.1.1	3020		Mono	Audio OUT Left 1
AUDIO OUT 1	Audio 1 out	Ok	224.0.1.1	3011	0	Mono	Audio IN Right 1
AUDIO OUT 2	Audio 2out	Ok	224.0.1.1	3012	0	Mono	Audio IN Left 1
Edit Audio Settings		<i>Link To SDP file (Session Description Protocol). The SDP file contains stream parameters that are meant for 3rd party applications (e.g. SW decoders) to open/view the stream.</i>					

AUDIO SETTINGS

Click “**Audio**” menu under the Configuration heading. Audio settings page appears on the screen. This page shows device's audio settings.

CODEC SETTINGS

Codec Audio codec name.

Samplerate Audio codecs samplerate.

SOCKET SETTINGS

Connector/Volume: Audio IN Left: Audio volume value (0...100%).
Audio IN Right: Audio volume value (0...100%).

STREAM SETTINGS

Name: User definable alias name for the audio stream.

IP address: Destination IP address:
- Multicast: Multicast IP address / multicast group.
- Unicast: IP address of receiving encoder.

Note! Gateway address is necessary for multicasting.
Device IP and gateway addresses must be in the same network.
The Gateway address must be set before enabling multicast.

Port: UDP port number.

Mode: Audio channel mode.

Connector: Audio connector (Audio in/out).

Edit Audio Settings: Opens audio settings page

Main	Configuration	Administration	About	LOGOUT			
AUDIO SETTINGS - MODIFY							
CODEC SETTINGS							
Codec		Samplerate					
AUDIO 1-2		32 kHz					
SOCKET SETTINGS							
Connector		Volume					
Audio IN Left 1		100 %					
Audio IN Right 1		100 %					
STREAM SETTINGS							
	Name	IP address	Port	DSCP	Mode	Connector	
☒	AUDIO IN 1	Audio 1 in	224.0.1.1	3010		Mono	Audio OUT Right 1
☒	AUDIO IN 2	Audio 2 in	224.0.1.1	3020		Mono	Audio OUT Left 1
☒	AUDIO OUT 1	Audio 1 out	224.0.1.1	3011	0	Mono	Audio IN Right 1
☒	AUDIO OUT 2	Audio 2out	224.0.1.1	3012	0	Mono	Audio IN Left 1
						OK Cancel	

AUDIO SETTINGS - MODIFY

Click "[Edit Audio Settings](#)" menu under the AUDIO SETTINGS heading. Audio settings modify page appears on the screen. Device audio settings can be changed on this page.

CODEC SETTINGS

Codec Audio codec.

Samplerate Select one of the available samplerate values (8KHz or 32 KHz). (Setting a higher samplerate value improves audio file quality and increases its size).

SOCKET SETTINGS

Connector: **Audio IN Left / Volume:** Set a value for audio left volume (0...100%).

Audio IN Right / Volume: Set a value for audio right volume (0...100%).

STREAM SETTINGS

AUDIO IN/OUT tickbox: Enable/disable audio channel.

Name: User definable name/description for the audio stream (max 16 chars).

IP address: Destination IP address.

Multicast: Multicast IP address / multicast group. This multicast IP address has to be same at both encoder and corresponding decoders.
Unicast: IP address of receiving encoder.

Port: UDP port number (0...65535). This number has to be same at both encoder and decoder pairs.

DSCP (Definition of the Differentiated Services) field lets you set bits in the stream IP header allowing a network device to apply rules such as how the packet is forwarded in the network and QoS (Quality of service) management.

Mode: Audio channel mode.

Connector: Audio connector (Audio in/out).

MPC-E1

Logged in as **admin** Host: **MPC-E1_camA (172.31.6.9)**

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PICTURE UPLOAD SETTINGS

Video Standard: **PAL**

SERVER SETTINGS

Primary FTP Server Directory URL

Secondary FTP Server Directory URL

	Input	Active	Status	Resolution	Quality	Update Period	Timestamp	Latest Picture	HTTP URL
Picture 1	Video 1	✓	Invalid primary server URL	CIF	75 %	5 s			

[Edit Picture Upload Settings](#)

PICTURE UPLOAD SETTINGS

Click "**Pictures**" menu under the Configuration heading. Picture upload settings page appears on the screen. This page shows device's picture upload settings.

Video standard: Video standard type (PAL or NTSC), can be change from COMMON SETTINGS - MODIFY page

SERVER SETTINGS

- Primary Server Directory URL:** Primary FTP server where the pictures will be uploaded
- Secondary Server Directory URL:** Backup FTP server where the pictures will be uploaded in case that primary FTP server fails
- Input:** Picture uploading source (video channel)
- Active:** Active picture uploads
- Status:** Picture uploading status. The possible values in this field are:
- Transmission OK
 - Transmission failed: The connection with FTP is lost
 - Error in source file reading: There was an error when reading the last uploaded picture
 - Disabled
 - Activated: This messages is shown after activating an previously disabled picture channel
- Resolution:** Picture resolution, either QCIF/CIF/2CIF or 4CIF (NTSC or PAL)
- Quality:** Picture quality in percents
- Update Period:** Picture update period
- Latest Picture:** Show latest picture information

Uploaded pictures will be named following the rule:
img_mpu00X_chX_YYYYMMDD_HHMMSS.jpeg, where:

- mpu00X is the source DSP unit
- chx is the souce video channel
- YYYYMMDD is the date in format year/month/day
- HHMMSS is the time in format hour/minute/second

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PICTURE UPLOAD SETTINGS - MODIFY

Video Standard: **PAL**

SERVER SETTINGS

Primary FTP Server Directory URL:

Secondary FTP Server Directory URL:

For example: *ftp://user:password@server:port/folder/*

Common	Picture Overlay Position	Picture Overlay Content
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MEDIA PROCESSING UNIT 1 RESOURCE METER

	Input	Active	Filename Template	Enable FTP	Enable HTTP	Resolution	Quality	Update Period
☒ Picture 1	Video 1	☒	%1_%2_%3_%d.%m.%Y_at_%H:%M:%S:%4.jpg	☒	☐	CIF	75 %	5 s
For example: The template %1_%2_%3_%d.%m.%Y_at_%H:%M:%S:%4.jpg will generate a filename --> HostName_mpu002_0_10.06.2009_at_11:55:01:946.jpg %1 The device hostname %2 The MPU ID %3 The channel number in MPU as a decimal (range 0 to 3) %4 The milliseconds as a decimal number (range 000 to 999)								
						CIF	75 %	5 s
						CIF	75 %	5 s
						CIF	75 %	5 s
						OK		Cancel

PICTURE UPLOAD SETTINGS - MODIFY

Click "[Edit Picture Upload Settings](#)" menu under the SERVER SETTINGS heading. Picture upload settings - modify page appears on the screen. Device picture upload settings can be changed on this page.

VIDEO UPLOAD SETTINGS - MODIFY/Common page contains one (MPC-E1/E2) or two (MPC-E4) MEDIA PROCESSING UNIT blocks. Picture upload enables the sending of JPEG snapshots to two different ftp server directories. Each MPU contains four separated picture uploading profiles which can be individually configured.

SERVER SETTINGS

Primary Server Directory URL: URL in the format ftp://user:password@server IP address:port/folder/
Secondary Server Directory URL: URL in the format ftp://user:password@server IP address:port/folder/
 E.g. **ftp://mpx-unit:admin@172.16.100.3:21/mpx-images/**

- **mpx-unit** is user name for the ftp server
- **admin** is password for the ftp server
- **172.16.100.3** is IP address of the FTP server
- **21** is the FTP server port
- **mpx-images** is the directory where the pictures will be stored in the ftp server

Input: Enable/disable picture uploading

Active: Active/inactive picture uploading

Filename Template: Name template (Max 128 characters) is similar to strftime(3) function in linux and it is used to format the JPEG filename when FTP option is used.

Enable FTP: Enable/disable FTP server

Enable HTTP: If enabled, video snapshots are available from URL http://encoder's IP address/snapshot, e.g. http://172.16.200.5/snapshot

Resolution: Picture resolution, either QCIF/CIF/2CIF or 4CIF

Quality: Picture quality value (0...100%)

Update Period: Picture update period (1...9999 seconds)

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PICTURE UPLOAD SETTINGS - MODIFY

Video Standard: **PAL**

SERVER SETTINGS

Primary FTP Server Directory URL

Secondary FTP Server Directory URL

For example: *ftp://user:password@server:port/folder/*

Common

Picture Overlay Position

Picture Overlay Content

MEDIA PROCESSING UNIT 1 RESOURCE METER

	Input	Vertical Position	Horizontal Position	Margin	Horizontal Alignment	Font Size
Picture 1(1)	Video 1	top	left	10 %	auto	10
Picture 1(2)		top	right	10 %	auto	10
Picture 1(3)		bottom	right	10 %	auto	10
Picture 1(4)		bottom	left	10 %	auto	10

PICTURE UPLOAD SETTINGS - MODIFY

[Video Overlay Position](#)

Video overlay is a technique used to display a text over on a picture. Click "[Video Overlay Position](#)" menu under the PICTURE UPLOAD SETTINGS - MODIFY heading. Picture upload settings modify / video overlay position page appears on the screen. Device picture overlay position settings can be changed on this page, i.e. what is text position on the screen.

MEDIA PROCESSING UNIT

- Vertical Position:** Text position, either top, center or bottom of screen
- Horizontal Position:** Text position, either left, center or right of screen
- Margin:** Text top margin (0...100 %)
- Horizontal Alignment:** Text alignment, either auto, left, center or right
- Font Size:** Text font size (1...30)

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PICTURE UPLOAD SETTINGS - MODIFY					
Video Standard: PAL					
SERVER SETTINGS					
Primary FTP Server Directory URL					
Secondary FTP Server Directory URL					
For example: ftp://user:password@server:port/folder/					
Common		Picture Overlay Position		Picture Overlay Content	
MEDIA PROCESSING UNIT 1 RESOURCE METER					
	Input	Pre Text	Timestamp1	Timestamp2	Post Text
Picture 1(1)	Video 1		none	none	
Picture 1(2)			none	none	
Picture 1(3)			none	none	
Picture 1(4)			none	none	

PICTURE UPLOAD SETTINGS - MODIFY

[Video Overlay Content](#)

Click "[Video Overlay Content](#)" menu under the PICTURE UPLOAD SETTINGS - MODIFY heading. Picture upload settings modify / video overlay content page appears on the screen. Device picture overlay content settings can be changed on this page, i.e. enter text content and is time and/or date shown or not.

MEDIA PROCESSING UNIT

- Pre Text:** Enter text before time/data stamp (max 32 chars)
- Timestamp1:** Time/date stamp(s)
- Timestamp2:** Time/date stamp(s)
- Post Text:** Enter text after time/data stamp (max 32 chars)

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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MOTION DETECTION AND ACTION SETTINGS

MOTION DETECTION

	Input	Name	Status	Algorithm	Sensitivity	Learning Time
MD 1	Video 1	Cam A	✓ Ok	Comparative	20 %	

ACTIONS

	Name	Status	Source	Target	Threshold	Filter	Action	Action Params
ACT 1	Cam A	✓ Ok	MD 1	MPEG4 1	30 %	5000 ms	1:Level sensitive trigger high	n/a

Edit Motion Detection and Action Settings

MOTION DETECTION SETTINGS

Click “**Motion detection**” menu under the Configuration heading. Motion detection settings page appears on the screen. This page shows device’s motion detection settings.

MOTION DETECTION

- Input:** Shows the analog video input which is set used to detect motion
- Name:** User definable name for the motion detection sensor
- Status:** Motion detection sensor status
- Algorithm:** Shows which algorithm is set to detect motion. Options are Comparative or Adaptive
- Sensitivity:** Shows the motion detection sensor sensitivity. Range is 0-100%
- Learning Time:** Shows the time during the motion detection sensor will learn the video background

ACTIONS

- Name:** User definable name for motion detection action
- Status:** Motion detection action status
- Source:** Shows which motion detection sensor is associated to the action.
- Target:** Shows the video stream which the action will be performed over
- Threshold:** Shows the amount of motion detected on the video that will trigger the action to be performed. Range is 0-100%
- Filter:** Once the amount of motion detected has exceeded the “Threshold” value, sensor’s “motion detected” state is true. This state will be remain unchanged for “Filter” time (in miliseconds)
- Action:** Shows what action is performed over the target video stream. Options are “Add MD info to RTP packets” / “Draw MD meter to image”
- Action Params:** Not available

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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MOTION DETECTION SETTINGS - MODIFY

Motion Detection

Actions

MEDIA PROCESSING UNIT1

	Input	Name	Active	Algorithm	Sensitivity	Learning Time	
☒ MD 1	Video 1	Cam A	☒	Comparative	20 %	0 s	Mask Editor
☐ MD 2	Video 1		☒	Comparative	20 %	0 s	Mask Editor
☐ MD 3	Video 1		☒	Comparative	20 %	0 s	Mask Editor
☐ MD 4	Video 1		☒	Comparative	20 %	0 s	Mask Editor

OK

Cancel

MOTION DETECTION SETTINGS - MODIFY

Click "[Edit Motion Detection and Action Settings](#)" menu under the MOTION DETECTION AND ACTION SETTINGS heading. Motion detection settings - modify / Motion Detection page appears on the screen. Device motion detection settings can be changed on this page.

MOTION DETECTION SETTINGS - MODIFY page contains one (MPC-E1/ E2) or two (MPC-E4) or four (MPX-E8) MEDIA PROCESSING UNIT blocks. Each MPU has eight motion detection configurable action schemes.

MEDIA PROCESSING UNIT

Input: Video input number

Name: User-defined alias name for this motion detection

Active: Enables / disables this configuration

Algorithm (Comparative/Adaptive): **Comparative detection:**

for indoor detections. Compares an image to the previous image

Adaptive detection:

Suitable for outdoor detections. System learns the background and tries to avoid generating faulty motion detections from objects like waving leaves

Sensitivity: The amount of pixels changes required to detect the motion

Learning Time: Adaptive detection only. The time required to learn the new background

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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MOTION DETECTION SETTINGS - MODIFY

Motion Detection

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MEDIA PROCESSING UNIT1

	Input	Name	Active	Algorithm	Sensitivity	Learning Time	
☒ MD 1	Video 1	Cam A	☒	Comparative	20 %	0 s	Mask Editor
☐ MD 2	Video 1		☒	Comparative	20 %	0 s	Mask Editor
☐ MD 3	Video 1		☒	Comparative	20 %	0 s	Mask Editor
☐ MD 4	Video 1		☒	Comparative	20 %	0 s	Mask Editor

OK

Cancel

As an example:

- Threshold: 30%
- Filter: 5000 ms --> (5 secs)
- Action: Add MD info to RTP packets

This means that the amount of motion detected on the video must be over 30% before sensor's "motion detected" state becomes true. This state will remain true at least for 5 secs, no matter what happens in the video image. The action triggered by the detected motion will send MD info over the video stream.

MOTION DETECTION SETTINGS - MODIFY

Click "[Edit Motion Detection and Action Settings](#)" menu under the MOTION DETECTION AND ACTION SETTINGS heading. Motion detection settings - modify / Motion Detection page appears on the screen. Device motion detection settings can be changed on this page.

MOTION DETECTION SETTINGS - MODIFY page contains one (MPC-E1/ E2) or two (MPC-E4) or four (MPX-E8) MEDIA PROCESSING UNIT blocks. Each MPU has eight motion detection configurable action schemes.

MEDIA PROCESSING UNIT

Enables/disables configurable action scheme (ACT1, ACT2, ACT3...)

ACT: Identifies the action with a name

Name: Activates/deactivates the action

Active: Selects the motion detection sensor to be associated to the action

Source: Selects the video stream which the action will be performed over

Target: Adjusts the amount of motion detected on the video that will trigger the

Threshold: action to be performed. Range from 0-100%

Adjusts the time the threshold value has to be exceeded before the

Filter: action will be performed

Selects what action will be performed over the target video stream.

Action: There are 2 options:

Motion detection related data will be included in the video stream for

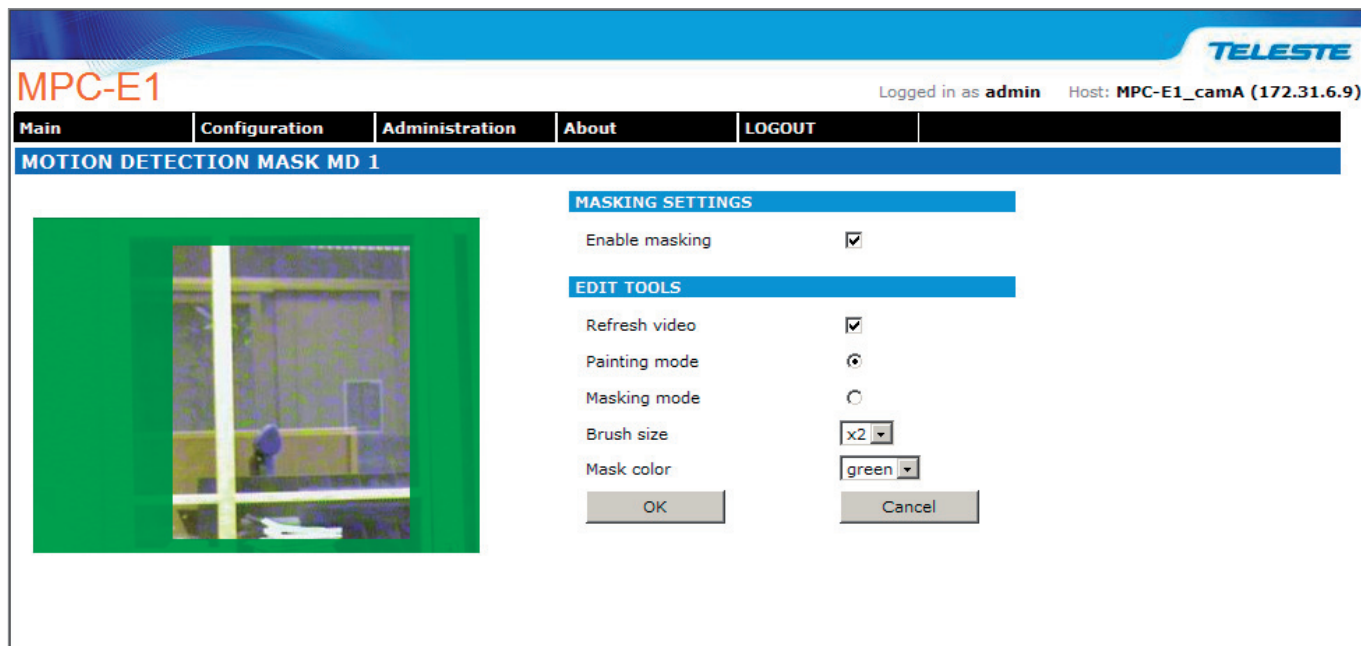
Add MD info to RTP packets: remote processing (i.e.: VMX alarms)

Note! MD info is inserted as RTP extensions to the video stream.

Some video decoders cannot cope with the extensions although they are defined in the corresponding RFC. VLC is one of them.

A meter showing the amount of motion detected will be overlaid to the

Draw MD meter to image: image. This action is performed always, no matter what all the rest of settings are



MOTION DETECTION MASK

Click "[Mask Editor](#)" menu under the MEDIA PROCESSING UNIT heading. Motion detection mask page appears on the screen. Device motion detection masking settings can be changed on this page.

MOTION DETECTION SETTINGS - MASK page contains settings for motion detection masking. Coloured area is not chosen for motion detection. Highlighted (painted) area is chosen for motion detection.

MASKING SETTINGS

Enable masking: Enables/disables the motion detection masking

EDIT TOOLS

Refresh video: Enables/disables automatic video refreshing

Painting mode: Enables/disables painting mode. Painting mode adds area for motion detection --> highlights chosen area

Masking mode: Enables/disables masking mode. Masking mode removes area for motion detection --> hides chosen area

Brush size: Select brush size for masking (x 1/2/3/4)

Mask colour: Select brush colour for masking (gray/red/green/blue)

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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TERMINAL SERVER SETTINGS

	Name	Status	Connection Type	IP address	Port	RX/TX	Mode	Baudrate - Databits - Parity - Stopbits	Termination
Data 1	PTZ 1	active	TCP client	172.31.6.2	5001	0/0	RS-422	38400 - 8 - N - 1	
Data 2	PTZ2	active	TCP client	172.31.6.2	5002	0/0	RS-485 4wire	115200 - 8 - N - 1	

Edit Terminal Server Settings

TERMINAL SERVER SETTINGS

Click “**Terminal Server**” menu under the Configuration heading. Terminal server settings page appears on the screen. This page shows device’s terminal server settings.

Name: User definable alias name for data interface

Status: Data status (connected/no connection)

Connection Type: TCP server, TCP client or UDP multicast

IP address: Destination IP address

Port: UDP port number

Mode: Data connection protocol

Baudrate - Databits - Parity - Stopbits

Baudrate: Data channel connection speed

Bits: Number of data bits

Parity: N = none, P = parity

Stopbits: Stopbits, either 1 or 2

[Edit Terminal Server Settings](#): Opens terminal server settings - modify page

MPC-E1

Logged in as **admin** Host: MPC-E1_camA (172.31.6.9)

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TERMINAL SERVER SETTINGS - MODIFY

Serial Port	Name	Connection Type	Active	IP address	Port	Mode	Baudrate	Bits	Parity	Stopbits	Term	Bias
☒ Data 1	PTZ 1	TCP client	☒	172.31.6.2	5001	RS-422	38400	8	☐	1	☐	☐
☒ Data 2	PTZ2	TCP client	☒	172.31.6.2	5002	RS-485 4wire	115200	8	☐	1	☐	☐

TERMINAL SERVER SETTINGS - MODIFY

Click "[Edit Terminal Server Settings](#)" menu under the TERMINAL SERVER SETTINGS heading. Terminal server settings modify page appears on the screen. Device terminal server settings can be changed on this page.

Serial port: Enable/disable required data interface

Name: User definable alias name for data interface (max 16 chars)

Connection Type: Point-to-point type data transmission is established by selecting the "TCP server" and "TCP client" settings between the data ports (if the encoder is set to be "TCP server", then the encoder must be set to "TCP client", or vice versa). In UDP multicast mode the service mode is detected automatically.

Active: Set active when required data channel is taken in use

IP address: Destination IP address

Port: UDP port number (0...65535). This number has to be same at both encoder and decoder pairs

Mode: Data connection protocol towards the external device, options are RS232/422/485 2-wire/485 4-wire

Baudrate: Data channel connection speed (range 2400...115200 bps)

Bits: Number of data bits. Options are 5, 6, 7, 8 & 9

Parity: A data-checking technique, which uses an extra bit

Stopbits: Options are 1 or 2

Term: Selected/unselected

Bias: Selected/unselected

Note! See page 9 for detailed description

MPC-E2

TELESTE

Logged in as admin

Host: MPC-E2 (172.31.6.3)

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CONTACT CLOSURE SETTINGS

Input Mode: Individual

Output Mode: Individual

INDIVIDUAL INPUT SETTINGS

Input	Name	Status	Connection Type	IP Address	Port	Input Filter	State	Counter	Timestamp
1		active	TCP Server		3001	disabled	open	0	Not available
2		disabled	disabled	0.0.0.0	0	disabled	open	0	Not available

INDIVIDUAL OUTPUT SETTINGS

Output	Name	Status	Connection Type	IP Address	Port	State	Normal State	Input Name	Counter	Timestamp
1		active	TCP Client	172.16.200.9	3002	open	open	Not available	1	Thu Apr 7 09:57:51 2011
2		disabled	disabled	0.0.0.0	0	open	open	Not available	0	Not available

Edit Contact Closure Settings

CONTACT CLOSURE SETTINGS

Click “**Contact Closure**” menu under the Configuration heading. Contact Closure settings page appears on the screen. This page shows device’s contact closure settings.

Input/output Mode: CC mode, either disabled, individual or group

INDIVIDUAL INPUT/OUTPUT SETTINGS

- Input/output:** CC channel number
- Name:** User definable alias name for CC interface
- Status:** CC status, either active, disabled or no connection
- Connection Type:** TCP client, TCP server, UDP multicast or SNMP
- IP address:** Destination IP address
- Port:** UDP/TCP port number
- Input Filter:** If enabled, it shows “Filter Time” value in milliseconds
- State:** Actual CC state. The possible values are “open”, “closed” and “unstable” (this last one only if “Input Filter” feature is enabled).
- Normal State:** The default state for a given CC output
- Counter:** Shows the total number of state changes that has been registered by a given input CC
- Time Stamp:** Shows the date and time for the last state change
- Input name:** Name of the remote input CC to which local output CC is connected

[Edit Contact Closure Settings](#): Opens contact closure settings - modify page

MPC-E2

TELESTE

Logged in as admin

Host: MPC-E2 (172.31.6.3)

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CONTACT CLOSURE SETTINGS - MODIFY

Input Mode

Individual

Output Mode

Individual

INDIVIDUAL INPUT SETTINGS

	Name	Connection Type	IP Address	Port	Input Filter	Filter Time
☒ Input 1		TCP Server		3001	☐	500
☐ Input 2			0.0.0.0	0	☐	500

INDIVIDUAL OUTPUT SETTINGS

	Name	Connection Type	IP Address	Port	Normal State
☒ Output 1		TCP Client	172.16.200.9	3002	Open
☐ Output 2			0.0.0.0	0	Open

OK

Cancel

CONTACT CLOSURE SETTINGS - MODIFY

Click "[Edit Contact Closure Settings](#)" menu under the CONTACT CLOSURE SETTINGS heading. Contact closure settings modify page appears on the screen. Device contact closure settings can be changed on this page.

Input/Output Mode

Individual: Each input/output is configured independently and they work completely isolated from each other

Group: All inputs/outputs share the same configuration and the status of all channels will be transmitted together

Disabled: CC is disabled

INDIVIDUAL INPUT/OUTPUT SETTINGS

Active: Only available when individual CC channels are in use. Set active when required CC channel (CC input/output 1...8) is taken in use

Name: User definable alias name for CC interface (max 16 chars)

Connection Type: TCP client TCP server, UDP multicast or SNMP. If SNMP is selected, all settings will be configured and controlled via SNMP protocol remotely

IP Address: Destination IP address

Port: UDP/TCP port number (0...65535)

Input Filter: Monitors how many state changes happen (from close to open or vice versa) during the time frame given by "Filter Time" parameter. If during this time frame CC input state changes more than once, the input state is set as "unstable".

Filter Time: Time frame for "Input Filter" (100...2000 ms)

Normal State: The default state for a given CC output (open/closed)

MPC-E1

Logged in as **admin** Host: MPC-E1_camA (172.31.6.9)

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SESSION ANNOUNCEMENT PROTOCOL SETTINGS

SAP Service	disabled
Multicast TTL	15
Announcement Interval (s)	10
Administrative scope	239.0.0.0 - 239.255.255.255

[Edit SAP Settings](#)

SESSION ANNOUNCEMENT PROTOCOL SETTINGS

SAP (Session Announcement Protocol) is a protocol that is used to assist the advertisement of multicast multimedia conferences and other multicast sessions, and to communicate the relevant session setup information to prospective participants. RFC 2974 describes the protocol.

Click “**SAP**” menu under the Configuration heading. Session announcement protocol settings page appears on the screen. This page shows device's SAP settings.

SAP Service: Service mode, either enabled / disabled

Multicast TTL: Multicast Time-To-Live for SAP packets

Announcement Interval (s): SAP timing in seconds

Administrative scope: Range of IP addresses which create a private notification channel

[Edit SAP Settings](#): Opens session announcement protocol - modify page

MPC-E1 Logged in as **admin** Host: **MPC-E1_camA (172.31.6.9)**

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SESSION ANNOUNCEMENT PROTOCOL SETTINGS - MODIFY

SAP Service ☐ enabled

Multicast TTL

Announcement Interval (s)

Administrative scope -

SAP SETTINGS - MODIFY

Click "[Edit SAP Settings](#)" menu under the SESSION ANNOUNCEMENT PROTOCOL SETTINGS heading. Session announcement protocol settings modify page appears on the screen. Device SAP settings can be changed on this page.

SAP Service: Service enabled / disabled

Multicast TTL: Multicast Time-To-Live for SAP packets (1...255)

Announcement Interval (s): SAP timing in seconds (1...999). Retransmit time of SAP-packet. This time has to be same at both encoder and decoder pairs

Administrative scope: Range of multicast IP addresses advertised with SAP. When the stream multicast address is within the SAP scope, end of the scope is used. Otherwise default SAP-address 224.2.127.254 is used. Default SAP-scope is 239.0.0.0 - 239.255.255.255 - more info about the administratively scoped block in <http://www.iana.org/assignments/multicast-addresses/>

Example: Video streams are multicasted to 239.0.1.x, where x is any value from 0-254

- Administrative scope for SAP could be set then to 239.0.1.0 - 239.0.1.255, which covers all video streams
- With these settings, the IP address used by SAP to advertise the video streams will be 239.0.1.255 (the last one of the range selected for SAP)

This method of SAP advertisement is useful to organize the advertisements. This way we can create isolated SAP advertisement channels. Receivers will listen to the SAP advertisement channel of their interest only.

- Encoder group #1 -> SAP administrative scope 239.0.1.0 - 239.0.1.255 --> SAP advertisement address: 239.0.1.255
- Encoder group #2 -> SAP administrative scope 239.0.2.0 - 239.0.2.255 --> SAP advertisement address: 239.0.2.255

- Decoder group #1 -> Interested only in encoder group #1 -> SAP advertisement address to listen to: 239.0.1.255 -> SAP administrative scope 239.0.1.0 - 239.0.1.255

- Decoder group #2 -> Interested only in encoder group #2 -> SAP advertisement address to listen to: 239.0.2.255 -> SAP administrative scope 239.0.2.0 - 239.0.2.255

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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REAL TIME STREAMING PROTOCOL (RTSP) SETTINGS

RTSP Service

enabled

Current bandwidth

~0 Mbps

Maximum bandwidth

15 Mbps

Input

RTSP Enabled

RTSP URL

Video 1

enabled

▶

rtsp://172.31.6.9/stream1

Edit RTSP Settings

REAL TIME STREAMING PROTOCOL (RTSP) SETTINGS

The Real Time Streaming Protocol (RTSP) is a network protocol used to establish and control media sessions between devices. For example, a video Decoder sends RTSP play command to the video Encoder. The video then is transmitted via RTP (Real-time Transport Protocol) or UDP (User Datagram Protocol) over a unicast or multicast session.

Click “**RTSP**” menu under the Configuration heading. Real time streaming protocol settings page appears on the screen. This page shows device’s RTSP settings.

RTSP Service: Service mode, either enabled / disabled

Current bandwidth: Shows the current bandwidth used by all channels

Maximum bandwidth: Maximum bandwidth allocated for all channels

Input: Range of IP addresses which create a private notification channel

[Edit RTSP Settings](#): Opens real time streaming protocol - modify page

REAL TIME STREAMING PROTOCOL (RTSP) SETTINGS - MODIFY

RTSP Service

Current bandwidth ~0 Mbps

Maximum bandwidth

Input

RTSP Enabled

Input	RTSP Enabled
Video 1	☒ enabled
Enable All Disable All	

REAL TIME STREAMING PROTOCOL (RTSP) SETTINGS

Click "[Edit RTSP Settings](#)" menu under the REAL TIME STREAMING PROTOCOL (RTSP) SETTINGS heading. Real time streaming protocol settings modify page appears on the screen. Device's RTSP settings can be changed on this page.

RTSP Service: Service mode, either enabled / disabled

Current bandwidth: Shows the current bandwidth used by all channels

Maximum bandwidth: Defines the maximum bandwidth allocated for all channels. The RTSP stream will not be played if the total bandwidth from all channels exceeds the Maximum Bandwidth

Input: Range of IP addresses which create a private notification channel

The RSTP-stream address is defined in following format: <device IP address>/<stream id>, where the stream id is corresponding to the encoding profile number of the device.

Example with MPX E8:

Device IP address: 192.168.222.3

Stream id: Input 8 configured to first encoding profile of media processor 4 -> stream13

URL for RTSP stream: rtsp://192.168.222.3/stream13

MPC-E1

Logged in as **admin** Host: MPC-E1_camA (172.31.6.9)

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COMMON SETTINGS

GENERAL OPTIONS

Video Standard	PAL
Join Multicast Group with Tx Streams	No

Edit Common Settings

COMMON SETTINGS

Click “**Common**” menu under the Configuration heading. Common settings settings page appears on the screen. This page shows device’s general options.

GENERAL OPTIONS

Video Standard: Video standard type (PAL or NTSC),
Join Multicast Group with TX Streams: Either enabled / disabled

[Edit Common Settings](#): Opens common settings - modify page

COMMON SETTINGS - MODIFY

GENERAL OPTIONS

Video Standard

PAL

Join Multicast Group with Tx Streams

No

OK

Cancel

COMMON SETTINGS

Click “**Edit Common Settings**” menu under the GENERAL OPTIONS heading. Common settings - modify page appears on the screen. Device common settings can be changed on this page:

GENERAL OPTIONS

- Video Standard:** Set video standard type, either PAL or NTSC
- Join Multicast Group with TX Streams:** Yes or No. This option defines whether the encoder joins its own multicast group or not. Typically this is not required but it might be needed for some switches.

MPC-E1

TELESTE

Logged in as admin

Host: MPC-E1_camA (172.31.6.9)

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NETWORK

Hostname

MPC-E1_camA

ETHERNET INTERFACES

Interface	Status	IP address	Netmask	MAC	Speed/Duplex	MTU
eth0	active	172.31.6.9	255.255.255.0	00:90:50:01:BF:12	100base-FD	1500

Edit Ethernet Interfaces

IP ROUTES

Destination	Netmask	Gateway	Interface
172.31.6.0	255.255.255.0	*	eth0
224.0.0.0	224.0.0.0	*	eth0
default	0.0.0.0	172.31.6.1	eth0

NETWORK

Click “**Network**” menu under the Administration heading. Network configuration page appears on the screen. This page shows device’s network settings.

Hostname: Alias name for the device

ETHERNET INTERFACES

Interface: Interface name, eth0 = Ethernet port A & eth1 = Ethernet port B

Status: Network status

IP address: IP address of the device

Netmask: Netmask address of the device

MAC: MAC address of the device

Speed/Duplex: Transmission parameters, network connection type and speed

MTU: MTU (Maximum Transmission Unit) value

IP ROUTES

Destination: Destination IP address

Netmask: Mask for subnet definition

Gateway: Gateway address for router definition. Gateway address is necessary for multicasting video. Device and gateway addresses should be in the same network

Note! Gateway address should be set before enabling multicast video

Interface: Options are eth0 and eth1

NETWORK - MODIFY

Hostname

MPC-E1_camA

Update

ETHERNET INTERFACES

Enabled	Interface	DHCP	IP address	Netmask	Speed/Duplex	MTU
☒	eth0	no	172.31.6.9	255.255.255.0	100base-FD	1500

OK

Cancel

NETWORK - MODIFY

Click “**Edit Ethernet Interfaces**” menu under the Ethernet Interfaces heading. Network - modify /Ethernet interfaces page appears on the screen. Device Ethernet interface settings can be changed on this page.

Hostname: User definable alias name for the device

ETHERNET INTERFACES

Enabled: Enables/disables Ethernet interface. Depending on the model, there is either one or two Ethernet ports available (eth0 = Ethernet port A and eth1 = Ethernet port B)

DHCP: DHCP client operation enabled/disabled. If enabled, the device gets its IP address from the DHCP server.

IP address: IP address of the device

Note! If this is changed, a new connection with the new IP address must be assigned to be able to continue with WebUI session

Netmask: Netmask address of the device

Speed/Duplex: Transmission parameters, options are auto, 100base-FD, 100base-HD, 10base-FD and 10base-HF (FD = full duplex, HD = half duplex)

Note! These parameters have to be same at both endocer and decoder ends

MTU: MTU (Maximum Transmission Unit) value (max 1500)

Note! Video packet will not go under 1200 bytes. The rest of the packets (data,...) will not go under 500 bytes.

Note! Unit reboot is required for MTU changes to take place.

NETWORK - MODIFY

IP ROUTES

	Destination	Netmask	Gateway	Interface
☐	172.31.6.0	255.255.255.0	*	eth0
☒	224.0.0.0	224.0.0.0	*	eth0
☒	0.0.0.0	0.0.0.0	172.31.6.1	eth0

Add new route

The address for default **Gateway** can be set from WebUI using the default route setting in the following way -> destination 0.0.0.0, netmask 0.0.0.0 and then desired address for the GW.

OKCancel

NETWORK - MODIFY

Click “**Edit IP Routes**” menu under the IP routes heading. Network - modify / IP routes page appears on the screen. This page shows device’s network settings.

IP ROUTES

Destination: Destination IP address

Netmask: Mask for subnet definition

Gateway: Gateway address for router definition. Device and gateway addresses should be in the same network.

Note! Gateway address should be set before enabling multicast video

Interface: Options are eth0 and eth1 (depends on device)

[Add new route](#): Opens a page where can to add new routes

The screenshot displays the WebUI interface for MPX series video encoders, organized into four main sections:

- MAINTENANCE**: Contains a **Backup** button with the description "Create backup of all configurations."
- CONFIGURATION**: Includes a **File Upload** section with a text input field, a **Browse...** button, and a **Restore** button.
- SOFTWARE**: Shows the **CURRENT application version** as **MPX-E-4.6.4** and the **OTHER version (stored in secondary block)** as **MP-C-4.4.7e.tar.gz** with an **Activate** button. Below this is another **File Upload** section with a text input field, a **Browse...** button, and a **Load** button. At the bottom of this section is a **File upload using URL** section with a text input field containing `tftp://` and a **Load** button.
- DEVICE CONTROL**: Features a **Factory** button ("Restore factory default settings.") and a **Reboot** button ("Reboot MPC-E1_camA").

A yellow callout box points to the **Factory** button, stating: "The default factory settings are the following: All configurations are cleared, except device IP, netmask and default gateway addresses."

MAINTENANCE

Click "**Maintenance**" menu under the Administration heading. Maintenance page appears on the screen. Device's firmware version can be updated and device configuration settings can be stored/uploaded from this page.

CONFIGURATION

Click **Backup** button to store the current configuration to a file.

File Upload: Use this feature to upload the stored configuration file to the device. First find the stored configuration file and then press **Restore** button to upload and activate the configuration settings. Device restarts automatically after pressing **Restore** button.

SOFTWARE

CURRENT application version is: Current firmware version, e.g. **MPX-E-4.6.4**

OTHER version is: Alternative firmware version. The alternative firmware version can be taken in use by clicking **Activate** button.

Note! The MP-X encoder is capable of storing two firmware images, and can be operational during firmware update. The two partition approach provides also possibility to fall back to old firmware version, either automatically if the new firmware fails to run on the device or manually by the administrator.

File Upload: Upload the new firmware version to the device.

DEVICE CONTROL

Note! Factory default restoration does not change the network interface IP configuration.

Click **Factory** button to restore default factory settings.
Click **Reboot** button to restart the device.

SERVICES	
SYSLOG	
Syslog server	0.0.0.0
Edit Syslog Settings	
TIMEZONE	
Time zone	Europe/Helsinki(+0200)
Local time	Thu, 07 Apr 2011 13:52:23 EEST
System time	Thu, 07 Apr 2011 10:52:23 GMT
Edit Timezone Settings	
NTP	
Configured servers	
No configured servers !	
Edit NTP Settings	
SNMP	
sysLocation	
sysContact	Teleste Support (support@teleste.com)
RO community	public
RW community	private
All trap destinations are disabled.	
Edit SNMP Settings	

SERVICES

Click “**Services**” menu under the Administration heading. SERVICES page appears on the screen. This page shows device’s syslog, timezone, NTP and SNMP settings.

SYSLOG

A Syslog server is a server, which stores log messages sent by “a remote unit” e.g. MPX series encoder. These messages include diagnosis data, e.g. reboots, NTP server status, stream operation...

Syslog server: Shows syslog server IP address

[Edit Syslog Settings:](#) Opens a page where can be changed the the syslog server IP address

TIMEZONE

Timezone: Selected time zone. Defines how conversion from system time (UTC) to local time is done. For user the local time is shown, for example in video text overlay timestamps. Conversion also takes daylight saving time in to account

Local time: Shows local time

System time: Shows system time (allways in GMT)

[Edit Timezone Settings:](#) Opens a page where can be changed the timezone

NTP

Configured servers: Shows configured NTP servers

[Edit NTP Settings:](#) Opens a page where the IP address of the NTP server can be changed

SNMP CONFIGURATION

sysLocation	
sysContact	Teleste Support (support@teleste.com)
RO community	public
RW community	private
Trap settings	
Trap destination 1	
Trap destination 2	
Trap destination 3	
Trap destination 4	
Trap destination 5	

OK

Cancel

SNMP

Simple Network Management Protocol (SNMP) is the network protocol developed to manage devices on an IP network.

Edit SNTP Settings: Opens SNMP configuration.

SysLocation: The sysLocation is used to define the location of the host on which the SNMP agent (server) is running.

Example: sysLocation 1st Floor of building, room 1.

SysContact: The sysContact is used to define the system contact address.

Example: sysContact Admin@email.address

RO community: Specifies the read only community (public or private).

RW community: Specifies the write community (public or private).

Trap settings: Trap Settings (Destinations)

Trap Destination defines the IP address of an Agent receiving traps

The latest SNMP MIB-files for MPX and MPC encoders can be downloaded directly from the device itself.

The url for the zipped MIB-file is [http://\[ip-address\]/mibs/mibs.zip](http://[ip-address]/mibs/mibs.zip)

This functionality is supported from FW version 2.5.7 onwards.

USER MANAGEMENT

Click “**User management**” menu under the Administration heading. User management page appears on the screen. This page shows device’s users settings.

USERS

Group: Shows device user groups.

Admins are allowed to log on to device and change all settings. Users with Operators rights are allowed to log on to device and monitor the system, but they are not allowed to change the settings.

Users: Shows device user accounts.

All user accounts are protected by a user name and a password.

Additionally device administrator can create, remove and edit user accounts, manage groups etc.

*Default user name and password are:
Username: admin
Password: easix*

MODIFY USER SETTINGS

Admin: Opens modify user settings page.

User account, group and password can be removed/changed on this page.

CREATE NEW USER

Create New User: Opens create new user page.

New users can be add to the system on this page.

User: Add a name for new user

New password: Enter the new password

Confirm password Re-enter new password

Groups: Select User groups. (Admin or Operator)

Restrictions: Enable/disable password modification

Command Line Interface - CLI

General

The **MPX** series video encoder unit includes a command line interface (**CLI**) for configuration purposes. The CLI is a screen interface that allows the user to interact with the operating system by entering commands and optional arguments.

CLI is accessed through any terminal emulator application (e.g. **Hyper Terminal** or **PuTTY**). The command structure is the same for all session types.

The CLI can be accessed in the following ways:

- Serial data connection (RS232), via **Mgmt** port, with a serial connection cable
- TCP/IP connection, via active **Ethernet** port, with a Ethernet connection cable

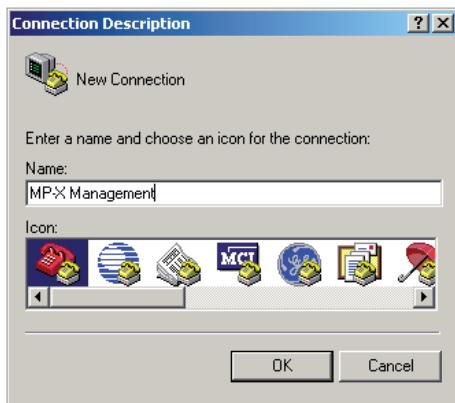
System requirements for CLI

Connection through management (Mgmt) port **locally**:

- * PC equipped with terminal emulator application supporting **VT100 / 102** or **ANSI** protocols, e.g. Hyper Terminal and PuTTY
- * **RS232**-cable (type Teleste **CIC504**)

Connection through Ethernet port **remotely**:

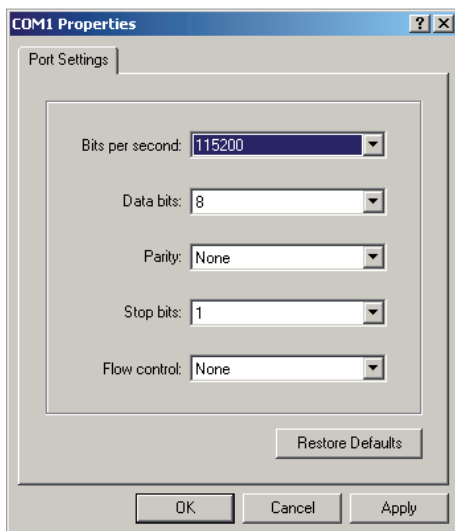
- * PC equipped with terminal emulator application supporting Secure Shell (SSH) network protocol, e.g. PuTTY
- * **Ethernet**-cable (e.g. type Teleste **OPUS1CAA0300X**)



Naming a terminal connection.



Selecting COM port.



Settings for COM port.

Connection methods - Serial connection

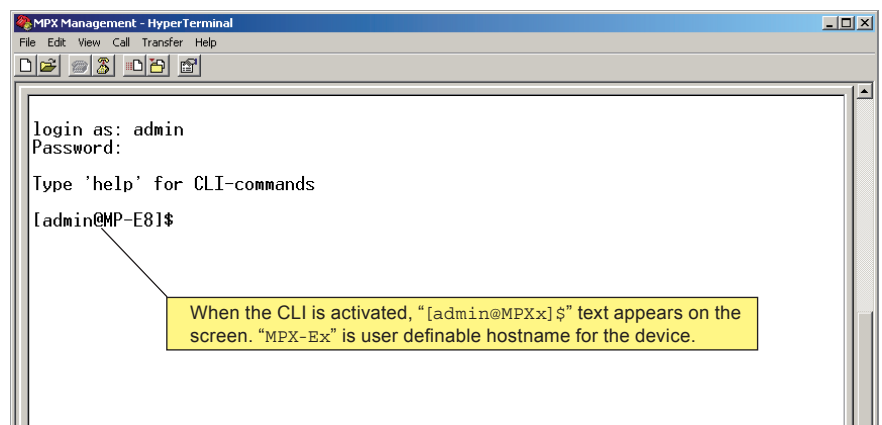
This chapter describes how to connect to CLI using Windows Hyper Terminal application.

1. Start the Windows Hyper Terminal application (in Windows by choosing -> Start/Programs/Accessories/Communications/Hyper Terminal). Wait until the following **"Connection Description"** window appears on the screen.
2. Enter a name for connection, e.g. **"MPX Management"** and click button to continue. The following **"Connect To"** window appears on the screen.
3. Choose **COM** port where the **management (RS232)** cable is connected, e.g. **COM1** port and click button to continue. The following **"COM1 Properties"** window appears on the screen. Set here the values as described in table below. Click button to continue. The **"MPX Management"** window appears on the screen.
4. To activate the terminal connection first press Enter --> "login as:" appears on the screen. Enter the required user name and the password (see section user groups, page 15). The **"MPX"** Hyper Terminal window appears on the screen. The terminal connection to **MPX** series video encoder device is now completed and you can now use the CLI commands to management the device.

The Hyper Terminal connection can be terminated by selecting File/Exit, Alt+F4 or clicking on the right upper corner of Hyper Terminal window.

Setting	Value
Emulation	VT100, VT102 or ANSI
Protocol	RS232 (serial)
Baud rate	115 200 kbps
Data bits	8
Parity	None
Stop bits	1
Flow control	None

Port settings to terminal connection.

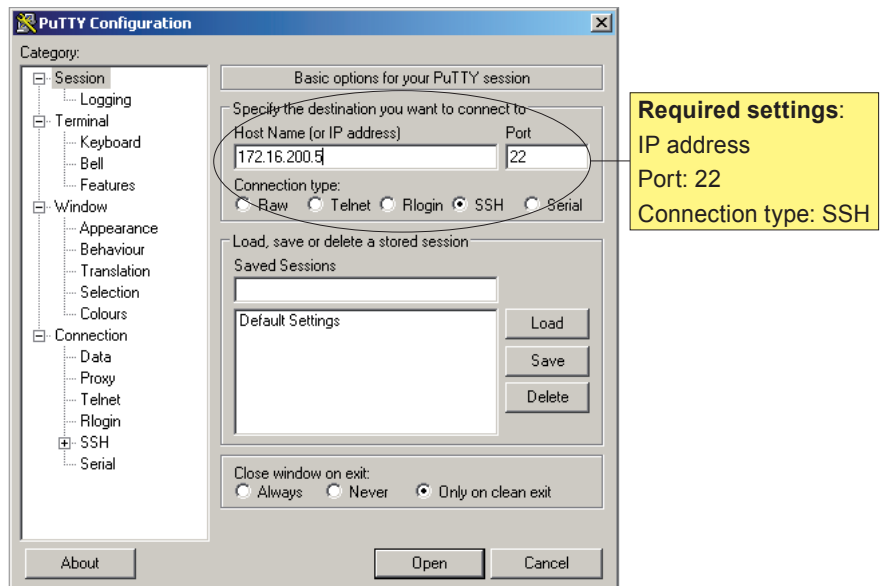


The Windows Hyper terminal application window view.

Connection methods - TCP/IP

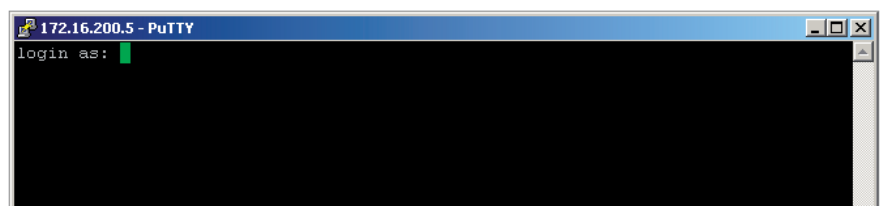
This chapter describes how to connect to CLI using PuTTY application. The same menus that are displayed on a local terminal are instantly available over an IP network.

1. Start the **PuTTY** application. Wait until the following “**PuTTY Configuration**” window appears on the screen:



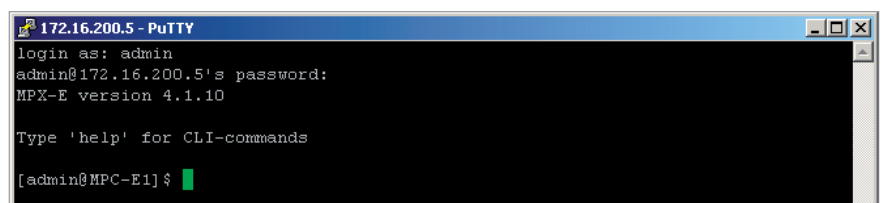
PuTTY application view (Windows XP).

2. Enter the device IP address into the “Host Name (or IP address)” address bar and click **Open** button to continue.
The following “**PuTTY**” window appears on the screen:



Telnet program view.

3. Enter the required user name and the password. The following “**172.16.200.5 - PuTTY**” window appears on the screen:



The **CLI** connection to **MPX** series video encoder is now completed and you can now use the **CLI** commands to management the device. The **CLI** connection can be terminated by entering command **exit**.

Detailed descriptions of CLI commands

How to use the CLI

CLI consists of several commands. To execute the command, press **enter** after typing command. Entering **help** displays all valid commands. Entering **help** and a **command** displays further options of command. **Ctrl -C** is the interrupt key sequency and returns user to the prompt.

***Note!** All letter must be typed as lowercase.*

```
[admin@MPX]$ help

Valid commands:

date                -> Date/time configuration
ipcfg               -> IP Configuration
ping                -> Test network connection
reboot              -> Reboot device
route                -> Route configuration
tftpswud            -> TFTP Software Update
uptime              -> Display uptime
appselect            -> Select active application
changelog            -> Print application changelog
passwd              -> Change password, only for current user
version             -> Print SW-version
eraseconf           -> Erase configuration
getconf <server>    -> Get configuration from tftp-server
putconf <server>    -> Put configuration into tftp-server
help                -> Print commands
help <command>      -> Help for command
exit                -> Exit CLI
[admin@MPX]$
```

Date command

Use the **date** command to change device date settings. Entering **help date** displays a list of options for **help** command.

```
Usage: date [OPTION]... [MMDDhhmm[[CC]YY][.ss]] [+FORMAT]

Displays the current time in the given FORMAT, or sets the system date.

Options:
  -R                Outputs RFC-822 compliant date string
  -d STRING         Displays time described by STRING, not `now'
  -I [TIMESPEC]     Outputs an ISO-8601 compliant date/time string
                   TIMESPEC=`date' (or missing) for date only,
                   `hours', `minutes', or `seconds' for date and,
                   time to the indicated precision
  -D hint           Use `hint' as date format, via strftime()
  -s               Sets time described by STRING
  -r FILE           Displays the last modification time of FILE
  -u               Prints or sets Coordinated Universal Time
```

Ipcfg command

Use the **ipcfg** command to change device IP settings. Entering **help ipcfg** displays a list of options for **ipcfg** command.

ip usage example:

```
ipcfg ip 192.168.0.20
netmask 255.255.255.0
gw 192.168.0.1
```

Sets IP address, subnet mask and gateway for Ethernet interface.

```
Interface:
  eth0/eth1        Configuring eth0 or eth1, eth0 is default
options:
  hostname NAME     Define a hostname, none=do not set hostname
  ip A.B.C.D        Define an IP address
  netmask A.B.C.D   Define a network mask
  gw A.B.C.D        Define a gateway address
  mtu value         Define a interface MTU
  speed_duplex TYPE Define a interface speed_duplex (10base-HD, 10base-FD,
                  100base-HD, 100base-FD, auto (default))
  status STATUS     Define interface up or down
  hostname          Display the hostname in config file
  ip                Display the IP address in config file
  netmask           Display the network mask in config file
  gw                Display the gateway address in config file
  status            Display the interface status in config file

  -s               Activate settings (ignored)
  -v               Display version information
```

* Strongly recommended not to change this value unless needed.

Ping command

Use the **ping** command to test if there is a specific IP address accessible in network. Entering **help ping** displays a list of options for **ping** command.

```
Usage: ping [OPTION]... host

Send ICMP ECHO_REQUEST packets to network hosts.

Options:
  -c COUNT      Send only COUNT pings
  -s SIZE       Send SIZE data bytes in packets (default=56)
  -q           Quiet mode, only displays output at start
                  and when finished
```

Reboot command

Use the **reboot** command to restart the device. Entering **help reboot** displays a list of options for **reboot** command.

```
Usage: reboot [-d<delay>] [-n<nosync>] [-f<force>]

Reboot the system.

Options:
  -d           delay interval for rebooting
  -n           no call to sync()
  -f           force reboot (don't go through init)
```

Route command

Use the **route** command to edit the kernel's routing tables. Entering **help route** displays a list of options for **route** command.

```
Usage: route [{add|del|delete}]

Edit the kernel's routing tables.

Options:
  -n           Dont resolve names
  -e           Display other/more information
  -A inet      Select address family
```

Tftpswud command

Use the **tftpswud** command to change device's firmware. Entering **help tftpswud** displays a list of options for **tftpswud** command.

Note! TFTP server must be installed, configured correctly and activated before using **tftpswud** command.

```
Usage: tftpswud <version number> <server ip>
```

tftpswud usage example:

```
Tftpswud 4.2.10
192.168.0.100
```

Uploads the firmware image version number 4.2.10 from address 192.168.0.100.

The firmware filename is in the form MP-E8-4.2.10.tar.gz for MPX-E8 and MP-C-4.2.10.tar.gz for MPC-E1/E2/E4

Uptime command

Use the **uptime** command to display the time since the last boot. Entering **help uptime** displays a list of options for **uptime** command.

```
Usage: uptime  
  
Display the time since the last boot.
```

Appselect command

Use the **appselect** command to display device's current application configuration. Entering **help appselect** displays a list of options for **appselect** command.

```
Usage: appselect [application number]  
  
This command prints current application configuration.  
To select new application into use and reboot device, use command with new application number.  
  
Example: appselect 1      -> Application 1 will be activated and device rebooted
```

Changelog command

Use the **changelog** command to display the changes for firmware. **Ctrl -c** is the interrupt key sequence and returns user to the prompt.

```
Usage: changelog  
  
Print application changelog. No options available.
```

Passwd command

Use the **passwd** command to change password for current user. Enter the new password (minimum of 5, maximum of 8 characters). Please use a combination of upper and lower case letters and numbers. Entering **help passwd** displays a list of options for **passwd** command.

```
Usage: passwd  
  
Change password for current user. No options available.
```

Version command

Use the **version** command to display the current firmware version of the device. Entering **help version** displays a list of options for **version** command.

```
Usage: version  
  
Print current software version. No options available.
```

The default factory settings are the following:
All configurations are cleared, except device IP, netmask and default gateway addresses

Eraseconf command

Use the **eraseconf** command to erase device's current configuration to default settings. Entering **help eraseconf** displays a list of options for **eraseconf** command.

Usage: eraseconf

This command will erase current configuration and reboot device.
Default settings will be loaded.

Getconf command

Use the **getconf** command to download stored configuration from TFTP - server. Entering **help getconf** displays a list of options for **getconf** command.

Note! TFTP server must be installed, configured correctly and activated before using getconf command.

Usage: getconf [tftp-server ip]

This command will download configuration from tftp-server and reboot device.

Putconf command

Use the **putconf** command to upload the current configuration to a TFTP - server. Entering **help putconf** displays a list of options for **putconf** command.

Note! TFTP server must be installed, configured correctly and activated before using putconf command.

Usage: putconf [tftp-server ip]

This command will upload/transmit configuration to tftp-server.

Event Management System

Introduction

The event management system controls video streaming and contact closure output based on motion detection sensor or contact closure state.

In MPX encoder an event is triggered by changing contact closure state (open /close) or motion detection sensors. An event can perform actions associated with it such as:

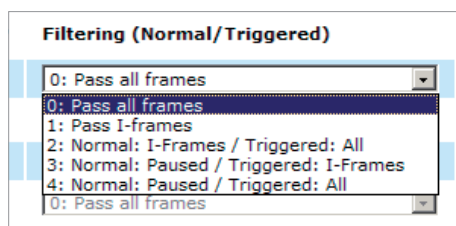
- Switching I-frames video stream to full frame video stream
- Switching paused video stream to full frames video stream
- Switching paused video stream to I-frames video stream

Event can configure for each MPEG-4, MJPEG, MPEG-2 and JPEG video channel. Additionally event can use to change contact closure output state.

Configuration

1. Select Event

Select event for video channel from the video connection page --> Configuration/Video/Edit Video Encoding Settings/Connection/Filtering (Normal/Triggered).



Selecting filtering type.

Filtering	Description
0: Pass all frames	This is the default option and enables the encoder to pass (stream) all frames (I and P frames). The Event Management System will not affect this stream when pass all frames option is selected
1: Pass I frames	This enables encoder to send only I-frames, meaning filtering all P frames. Event Management System does not affect this video stream when pass I frames function is selected
2: Normal: I frames / Triggered: all	This option enables the encoder to send only I-frames in normal condition (when there is no motion detected or contact closure event) and in case of a trigger (motion detection or contact closure), encoder will send all frames meaning I and P frames
3: Normal: Paused / Triggered: I- Frames	This option enables the encoder to pause streaming (video is not sending out to the interface) in normal conditions (when there is no motion detected or contact closure event) and in case of a trigger (motion detection or contact closure), encoder will resume streaming only I frames
4: Normal: Paused / Triggered: All	This option enables the encoder to pause streaming (video is not sent out to the interface) in normal conditions (when there is no motion detected or contact closure event) and in case of a trigger (motion detection or contact closure), encoder will resume streaming and send all frames (I and P frames)

The Filtering items and their descriptions.

2. Select Action

Select trigger and action from Motion Detection Settings - Modify page --> Configuration/Motion Detection/Edit Motion Detection and Action Settings/Actions.

Motion Detection		Actions						
MEDIA PROCESSING UNIT1		Name	Active	Source	Target	Threshold	Filter	Action
☒	ACT 1	Action 1 on MPU-1	☒	MD 1	MPEG4 1	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 2	Action 2 on MPU-1	☒	MD 1	MPEG4 1	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 3	Action 3 on MPU-1	☒	MD 2	MPEG4 2	30 %	5000 ms	2:Draw level to image
☐	ACT 4	Action 4 on MPU-1	☒	MD 3	MPEG4 3	30 %	5000 ms	5:Level sensitive trigger low
☐	ACT 5	Action 5 on MPU-1	☒	MD 4	MPEG4 4	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 6	Action 6 on MPU-1	☒	CC INPUT 1	MPEG2 1	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 7	Action 7 on MPU-1	☒	CC INPUT 2	MPEG2 2	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 8	Action 8 on MPU-1	☒	CC OUTPUT 1	MPEG2 3	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 9	Action 9 on MPU-1	☒	CC OUTPUT 2	MPEG2 4	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 10	Action 10 on MPU-1	☒	MD 4	JPEG 1	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 11	Action 11 on MPU-1	☒	MD 4	JPEG 2	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 12	Action 12 on MPU-1	☒	MD 4	JPEG 3	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 13	Action 13 on MPU-1	☒	MD 4	JPEG 4	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 14	Action 14 on MPU-1	☒	MD 4	MJPEG 1	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 15	Action 15 on MPU-1	☒	MD 4	MJPEG 2	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 16	Action 16 on MPU-1	☒	MD 4	MJPEG 3	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 17	Action 17 on MPU-1	☒	MD 4	MJPEG 4	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 18	Action 18 on MPU-1	☒	MD 4	CC OUTPUT 1	30 %	5000 ms	1:Level sensitive trigger high
☐	ACT 19	Action 19 on MPU-1	☒	MD 4	CC OUTPUT 2	30 %	5000 ms	1:Level sensitive trigger high

Action page showing sources and targets available for the event management system.

Source	Description
MD	Motion detection sensor triggers the event
CC INPUT	Contact closure input state (open/close) triggers the event
CC OUTPUT	Contact closure output state (open/close) triggers the event. Note that CC outputs state can be controlled by the remote management systems such as VMX or SNMP

The Source options.

Target	Description
MPEG-4	The MPEG-4 video channel event activates when source action is triggered. See table "The Filtering items and their descriptions"
JPEG	The JPEG channel event activates when source action is triggered. <i>This requires JPEG channels to be configured</i>
MJPEG	The MJPEG video channel event activates when source action is triggered. See table "The Filtering items and their descriptions"
CC OUTPUT	The state of contact closure output changes (open/close) when source action is triggered. <i>This requires CC outputs to be configured</i>

The Target items and their descriptions.

Target	Description
Level sensitive triggered high	When selected, Event Management System will add motion detection into the RTP packet. Link MD or CC source to the targets (MPEG4, MJPEG or CC output)
Draw level to image	A bar appears in the left up corner of the video showing motion amount. This is called motion detection bar. <i>Note! The motion detection info is not inserted in the RTP packet when this option is selected</i>
Level sensitive trigger low (For CC inputs use only)	When selected, Event Management System links CC inputs in reverse polarity to the targets (MPEG4, MJPEG or CC outputs). For example, when CC input is open, the filtering is disabled (sending all frames) and when CC is closed, filtering is enabled (sending I frame only). <i>Note! The motion detection is not inserted in the RTP packet when this option is selected</i>

Action linking items and their descriptions.

Sample scenarios

The following scenarios are examples of how the event management system can control video streams. When changing the settings, remember click OK button to confirm settings.

Switching I-frames only to full frames stream by motion detection sensor

In this case Encoder streams I-frames only in normal mode. When motion is detected in video channel 1, encoder starts streaming full frame video.

MPEG4	Input	Name	Pause	Destination IP Address	UDP Port	DSCP	Filtering (Normal/Triggered)
MPEG4 1	Video 1		☐	239.6.3.1	6002	0	2: Normal: I-Frames / Triggered: All
MPEG4 2	Video 2		☐				
MPEG4 3	Video 1		☐				

Select "2: Normal: I-Frames / Triggered: All" option

1. Click "[Connection](#)" menu under the Configuration/Video/Edit Video Encoding Settings page and select "2: Normal: I frames / Triggered: All" option from the **Filtering (Normal/Triggered)** pull-down menu.

	Name	Active	Source	Target	Threshold	Filter	Action
☒ ACT 1	Action 1 on MPU-1	☒	MD 1	MPEG4 1	30 %	5000 ms	1: Level sensitive trigger high
☐ ACT 2	Action 2 on MPU-1	☒	MD 1	MPEG4 1			
☐ ACT 3	Action 3 on MPU-1	☒	MD 2	MPEG4 2			

Select "1: Level sensitive trigger high" option

2. Select the MD1 for the input where camera is connected from "[Actions](#)" menu under the Configuration/Motion Detection/Edit Motion Detection page and select "1: Level sensitive trigger high" option from the **Action** pull-down menu.

Switching I-frames only to full frames stream by contact closure input sensor

In this case encoder streams I-frames only in normal mode. When CC input 1 is closed, encoder starts streaming full frame video.

MPEG4	Input	Name	Pause	Destination IP Address	UDP Port	DSCP	Filtering (Normal/Triggered)
MPEG4 1	Video 1		☐	239.6.3.1	6002	0	2: Normal: I-Frames / Triggered: All
MPEG4 2	Video 2		☐				
MPEG4 3	Video 1		☐				

Select "2: Normal: I-Frames / Triggered: All" option

1. Click "[Connection](#)" menu under the Configuration/Video/Edit Video Encoding Settings page and select "2: Normal: I frames / Triggered: All" option from the **Filtering (Normal/Triggered)** pull-down menu.

	Name	Active	Source	Target	Threshold	Filter	Action
☒ ACT 1	Action 1 on MPU-1	☒	CC INPUT 1	MPEG4 1	30 %	5000 ms	1: Level sensitive trigger high
☐ ACT 2	Action 2 on MPU-1	☒	MD 1	MPEG4 1			
☐ ACT 3	Action 3 on MPU-1	☒	MD 2	MPEG4 2			
☐ ACT 4	Action 4 on MPU-1	☒	MD 2	MPEG4 2			
☐ ACT 5	Action 5 on MPU-1	☒	MD 3	MPEG4 3			

Select "CC INPUT 1" option

Select "1: Level sensitive trigger high" option
Note! CC polarity can set to reversed by changing Action setting to "5: Level sensitive trigger low". See table "Action linking items and their descriptions".

2. Select the MD1 for the input where camera is connected from "[Actions](#)" menu under the Configuration/Motion Detection/Edit Motion Detection page and select "1: Level sensitive trigger high" option from the **Action** pull-down menu.

Changing Contact closure output state by motion detection sensor

In this case encoder changes CC output state (open/close) when motion is detected by MD1 (motion detection 1) sensor. In this example you are controlling CC (contact closure) output which does not affect video stream.

MPEG4	Input	Name	Pause	Destination IP Address	UDP Port	DSCP	Filtering (Normal/Triggered)
MPEG4 1	Video 1		☐	239.6.3.1	6002	0	0: Pass all frames
MPEG4 2	Video 2		☐				
MPEG4 3	Video 1		☐				

Select "0: Pass all frames" or "1: Pass I-frames" option

1. Click "[Connection](#)" menu under the Configuration/Video/Edit Video Encoding Settings page and select "0: Pass all frames or Pass I-frames" option from the **Filtering (Normal/Triggered)** pull-down menu.

OUTPUT GROUP SETTINGS	
Name	Connection Type
Output Group	SNMP

Select "SNMP" option

2. Go to the --> Configuration/Contact Closure/Edit Contact Closure Settings page, and set CC **Output Mode** to the "Group" and then select "SNMP" option from the **Connection Type** pull-down menu.

	Name	Active	Source	Target	Threshold	Filter	Action
☒ ACT 1	Action 1 on MPU-1	☒	MD 1	CC OUTPUT 1	30 %	5000 ms	1:Level sensitive trigger high
☐ ACT 2	Action 2 on MPU-1	☒	MD 1	MPEG4 1	30 %	5000 ms	1:Level sensitive trigger high
☐ ACT 3	Action 3 on MPU-1	☐					
☐ ACT 4	Action 4 on MPU-1	☐					

Select "CC OUTPUT 1" option

Select "CC OUTPUT 1" option

Select "1: Pass all frames" or "1: Level sensitive trigger high" option

3. Go to the --> Configuration/Motion Detection/Edit Motion Detection and Action Settings page, and set **Source** to the "MD1", select "CC OUTPUT 1" option from the **Target** pull-down menu and select "1: Level sensitive trigger high" option from the **Action** pull-down menu.

Uploading JPEG files by contact closure input sensor

In this case encoder starts to upload JPEG files when CC input state is closed.

	Input	Active	Filename Template	Enable FTP	Enable HTTP	Resolution	Quality	Update Period
☒ Picture 1	Video 1	☐	img_%1_%2_ch%3.jpg	☒	☐	CIF	75 %	5 s
☐ Picture 2		☐	%d_%H%M%S.jpg	☐	☐	CIF	75 %	5 s
☐ Picture 3		☐	%d_%H%M%S.jpg	☐	☐	CIF	75 %	5 s

Active checkbox must not be not selected!

1. Go to the --> Configuration/Pictures/Edit Picture Upload Settings page and make sure that Active checkbox is not selected.

	Name	Active	Source	Target	Threshold	Filter	Action
☒ ACT 1	Action 1 on MPU-1	☒	CC INPUT 1	JPEG 1	30 %	5000 ms	1:Level sensitive trigger high
☐ ACT 2	Action 2 on MPU-1	☒	MD 1	MPEG4 1	30 %	5000 ms	1:Level sensitive trigger high
☐ ACT 3	Action 3 on MPU-1	☐					
☐ ACT 4	Action 4 on MPU-1	☐					

Select "CC INPUT 1" option

Select "JPEG 1" option

Select "1: Level sensitive trigger high" option

2. Go to the --> Configuration/Motion Detection/Edit Motion Detection and Action Settings page, and set **Source** to the "CC INPUT1", select "JPEG 1" option from the **Target** pull-down menu and select "1: Level sensitive trigger high" option from the **Action** pull-down menu.

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WEEE directive

Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE) obliges that producers appropriately mark electrical and electronic equipment with the symbol indicating separate collection. This obligation applies to the equipment put on the market in EU after 13 August 2005.

Teleste devices which belong to the scope of the directive have been marked with the separate collection symbol shown below. The marking is according to the standard EN 50419. The symbol indicates that the device has to be collected and treated separately from unsorted municipal waste.



User manual revision history note:

The latest version is always available in pdf-format on our web site:

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